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# The Gardens' Bulletin

## STRAITS SETTLEMENTS

Vol. VI Issued December 1929 Part 1

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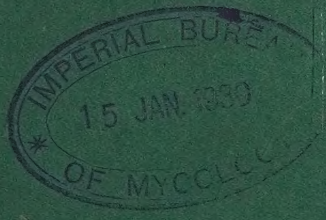
## ON CHINESE MEDICINE:

### DRUGS OF CHINESE PHARMACIES IN MALAYA

BY

DAVID HOOPER, LL.D., F.C.S.

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VOL. VI Issued December, 1929 NOS. 1–5

## ON CHINESE MEDICINE: DRUGS OF CHINESE PHARMACIES IN MALAYA

*By David Hooper, L.L.D., F.C.S.*

### INTRODUCTION

THE crude medicinal substances described in the following pages were collected by Mr. I. H. Burkill M.A., when Director of Gardens, Straits Settlements. The specimens were obtained from Chinese druggists in Malaya—men of considerable experience of drugs. It is well known that Chinese divide vegetable drugs into two classes: the first is called Kuan yao, or official remedies, chiefly contained in the great herbal, Pen ts'ao kang mu, and Ts'ao yao, consisting of herbs and roots generally used as domestic remedies.

The identification of most of these samples was made at the Royal Botanic Gardens, Kew, and I have to thank the Director and the staffs of the Herbarium, the Museums, and the Jodrell Laboratory for their ever ready assistance. An examination of the original collection of Chinese drugs made by Daniel Hanbury and Porter Smith and others, stored in the Museum of the Pharmaceutical Society has been a fruitful source of information.

The co-operation in this inquiry of Dr. Augustine Henry is gratefully acknowledged. Stationed in China for some years, Dr. Henry succeeded in collecting a considerable number of plants yielding drugs the origin of which was before unknown. His knowledge of botany in addition to that of Chinese has enabled him to make valued corrections and additions to the list.

No work on Chinese commercial products would be complete without reference to the publications of Sir Alexander Hosie, Chief of the Imperial Customs, whose lamented death occurred in 1925. His notes on the trade in Manchuria, Mongolia, and Szechwan have been of great use, and I am greatly indebted to Lady Hosie for placing at my disposal some sheets of his contemplated but unfortunately unfinished Dictionary of Economic Products of China.

Dr. Bernard Read, of Peking, and the distinguished pharmacognosist, Mr. E. M. Holmes, have also contributed many helpful suggestions.

It has been considered desirable that the names of the drugs should appear in Chinese characters followed by the Romanized Mandarin transliterations. For this purpose the kind help has been obtained of Rev. T. W. Pearce, LL.D., O.B.E., of the London Mission; Rev. H. S. Cliff, of the China Inland Mission; and Rev. S. B. Drake, of the Baptist Mission. In several cases the Cantonese pronunciation has been supplied, and as the Chinese pharmacists in the Malay Peninsula are Cantonese, it agrees closely with the names written in Malaya upon the labels of the samples. These are enclosed in inverted commas.

Owing to the fragmentary specimens of some of the drugs consisting of fine slices of stems, roots, and barks, it has not been possible to trace the origin with any degree of certainty. A wide field of research lies open to the student of pharmacognosy in identifying these specimens with plants of authentic origin. The small list of mineral and animal substances are not scientifically classified: many of the specimens of the latter class recall the unpalatable drugs found in European pharmacy 200 years ago.

Mr. Burkill has done excellent service in bringing together for the first time a collection of drugs used by the Chinese in the Malay Peninsula. From it we are able to learn that while the Chinese on the whole adhere to the use of drugs of their own country, probably on account of the geographical position of Singapore and neighbourhood, the materia medica has been decidedly influenced by the introduction of local and Indian products.

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1. **Abutilon indicum,** G. Don. Malvaceae.

關沙苑: Kuan sha yüan, local name 'Kwan sa yin'. Tung k'uei tzü is the usual Hong-Kong name for these seeds of the Country Mallow. In other parts of China this name seems to refer to species of *Malva*. (Br. iii. 105; Henry, Chin. P.C. 156.)

The seeds of an unknown plant passing through the Customs as 'Sha yüan' (Alpha. 1081) are probably the same, and may be an introduced drug. *A. indicum* is distributed in Tropical Asia, Africa, and Australia. It is common in waste ground and appears to flourish in poor soil and requires but little water. The leaves, bark, and seeds are used in medicine. The seeds are small, 2–3 mm. long, irregularly kidney-shaped; the surface is brown or greenish-brown and polished. They are used in India for their mucilaginous and diuretic properties.

2. **Acanthopanax spinosum,** Miq.: (*Aralia pentaphylla*, Thunb.) Araliaceae.

川加皮 Ch'uan (Szechwan) chia p'i: Ch'uen ka p'i (Cant.): local name 'Choon kew phee'.

This is a form of the drug Wu chia from Szechwan. It occurs in thin branches or stems with a light-coloured bark covered

with spiny hairs, corresponding with herbarium specimens of the above plant. The usual drug supplied under this name is the root-bark of another plant which is bitter and astringent. This is described in the article on *Eleutherococcus Henryi*—No. 155.

Stuart and Read refer Wu chia to *A. spinosum* a plant which Dr. Henry found at Ichang. The same plant also occurs in Japan and is known by the same Chinese name. In Malaya this drug is used for flatulence.

3. **Achyranthes bidentata**, Blume. Amaranthaceae.

牛七: Niu (ox) ch'i (seven): Ngau ts'at (Cant.): local name 'Ngow chat'. Niu hsi (ox knee) Br. ii. 194, iii. 101; Tatar.; P.S. under *Pupalia*; J.R.; T. & M.; C.R. Alpha. 903; a coarser kind from Szechwan, Ch'uan niu hsi. C.R. Alpha 452; T'ien Ch'uan hsi, Hosie; St., B.E.R.; Kew and Ph. Soc. Mus. specimens from China, Japan, and Perak.

The plant is cultivated in various parts of China where the young shoots are eaten. The root is exported as a medicine from Tientsin and Hankow; the Malayan sample came from Waichow. The drug occurs in short, brown pieces of the thickness of a quill, wrinkled longitudinally, breaking with a short fracture. Soaked in water the root swells to four or five times its size, having a plump appearance, light brown cuticle, and a section showing a woody centre and a ring of woody vessels between that and the circumference. Samples of the drug in the Museums vary considerably. Some of the roots are attached to the stems, the joints of the latter having some resemblance to the knee of the ox or crane. The roots of the Japanese drug are tough and fibrous. The Szechwan drug consists of transverse slices of a larger root, apparently sections of the root stock, with rootlets attached. The taste in each case is bitterish.

The drug is a remedy for rheumatism, fever, and cutaneous diseases. In Perak it is given for extreme anaemia. In India and Ceylon the root of *A. aspera* is taken as a diuretic and astringent.

4. **Acorus Calamus**, Linn. Araceae.

菖蒲: Ch'ang p'u (acorus rush): local name 'Cheong fu', Br. iii. 194, Henry; T. & M.; P.S.; Pai ch'ang, B.E.R.; Shui ch'ang p'u, C.R. Alpha. 29; St. P'u; generic name for rushes suitable for making mats.

The Sweet Flag or Calamus occurs all over Eastern Asia, and is cultivated in some parts for its acrid and aromatic roots. Bretschneider says there are five kinds of Calamus, but that grown in water among stones, Shui ch'ang p'u, is the best for food and medicinal purposes. Hosie calls this root Hsiang kan ts'au 香甘草 'Fragrant sweet herb'. It is valued at T 8 a picul.

The drug is made up of thin longitudinal sections of the rhizome 3 in. long and 1 in. across, with a fragrant odour and pungent taste, due to an essential oil.

On account of its pleasant aroma the root is placed among clothes to keep away insects. In Constantinople the root is eaten as a preventive against pestilence. It is supposed to affect the heart and lungs and to be beneficial for cancer. In general it is taken as a restorative for the body and spirits.

5. **Acorus gramineus,** Ait.

外菖蒲: Wai (foreign) Ch'ang p'u (Calamus): local name 'Soi cheong phoo'. Shih ch'ang p'u, P.S.; Shui (water) Ch'ang p'u, Br. ii. 376; iii. 194, 378; Hosie; T. & M.; C.R. Alpha. 1139; St.; B.E.R. Specimen from Singapore in Ph. Soc. Mus.

A plant growing in marshes in China, Japan, and Cochin China. It is smaller than the last species and is much cultivated by the Chinese and Japanese. There is a great demand for its sword-like leaves on the occasion of the annual dragon-boat festival. The Singapore drug is said to have come from Szechwan, Shensi, and Kweichow.

The drug consists of small cylindrical pieces of a rhizome about 4–5 mm. in diameter, light brown colour externally, and knotted with scars of fallen leaves; internally it is white and starchy with an acidulous taste and slightly agreeable odour. The root is not inaptly compared by the Chinese to whip cord.

The root has stimulant, tonic, and antispasmodic properties, and like the larger calamus is used as an insectifuge and insecticide.

6. **Adenophora polymorpha,** Ledeb., and **A. verticillata,** Fisch. Campanulaceae.

沙參: Sha shên (sand ginseng): called locally 'Sa sam'. Sha shên, pai shên, Br. iii. 4; Pen ts'ao; Tatar; C.R. Alpha. 853; P.S.; S. & T.; T. & M.; Henry, Chinese Plants, 405; St.; B.E.R.; Ph. Soc. Mus., specimen from Singapore.

These plants grow in Hupeh, Anhuei, Shantung, and Fukien; Sha hien in the latter province is said to give the name sha to the drug. The Pen ts'ao also quotes Chihli, Kiangsu, and Kiangsi as localities where it is found. The milk-white root is a drug classed with and substituted for true ginseng. It is exported from Chefoo. The Malayan sample is said to have been grown in sand. The root is long, dense, and light coloured. In the shops it occurs in cylindrical pieces, about an inch in length, and as thick or somewhat thicker than a pencil, without bark. It has little odour and a slightly acrid taste due to the presence of a saponin. The drug, like ginseng, is tonic, pectoral, and emollient.

7. **Adenophora sp.** Campanulaceae.

明冉 : Ming tang, an abbreviation of Ming tang shen. Tatar; P.S. under *Convolvulus*; J.R.; Henry; Hosie; St.; Ph. Soc. Mus.

Ming tang, or clear ginseng from Shang tang, is a drug brought from Hupeh and the provinces in Central China. Hosie notices it as a Szechwan drug. Dr. Henry reports that it is collected in Anhuei (exported from Wu ku 60 tons yearly) and in Kiangsu (exported from Chinkiang 16 tons yearly). It is probably the root of an *Adenophora* as it resembles in microscopic structure the drug Sha shen, the root of *A. polymorpha*. The Singapore drug came from Anhuei. It is in short pieces of a light-coloured root, horny in consistence, showing an inner and outer portion. The outer portion is yellowish brown in colour with reddish spots. The root breaks with a tough fracture, and is devoid of odour and taste.

8. **Adenosma caerulea,** R. Br. Scrophulariaceae.

茅射香 : Mao Shê hsiang: local name 'Mow say hong'. This small plant is found in China and Malaya. The flowering and fruiting tops are used in medicine. Mr. Ridley refers to species of *Adenosma* as domestic remedies in the Straits Settlements.

9. **Ailanthus glandulosa,** Desf. Simarubaceae.

鳳眼草 : Feng (Phoenix) yen (eye) ts'ao (plant): Fung ngaan ts'o (Cant.) local name 'Foong ngan chow'. Fung yen ts'ao, 'fruits of *Fraxinus sp.*' in Ph. Soc. Mus. Ts'ao is an unsuitable name for a tree.

This species of *Ailanthus* is well distributed in North China and Manchuria, where it is known as the Ch'ow ch'un shu. In Europe it is called the 'Tree of Heaven'. The leaves are sometimes used for feeding the wild silkworm, *Antheraea Pernyi*, G. Mén., whose usual food is, however, the leaves of several kinds of oak (Hosie).

In Malaya the fruits are sold as a medicine. The fruit is a samara, oblong in shape, 4 cm. long, the light green membranaceous wings, netted with veins and rounded at the ends; the darker lens-shaped seed in the centre measures 5 mm. across.

The appearance of these fruits suggests the eyes of a bird. According to the law of signatures the drug is used for ophthalmic diseases. In India, similar fruits of *A. malabarica*, DC., are used for the same purpose.

10 and 11. **Akebia quinata,** Dec. Berberidaceae.

(*a*) 廣木通: Kuang (Kuang tung) mu (mood) t'ung (through). Kwong muk t'ung (Cant.): local name 'Kuan mook thoong'.

(*b*) 牆木通 : Ch'iang (place) mu t'ung. Ts'eung muk t'ung (Cant.): local name 'Wai mook thoong'. Lour.; Mu t'ung, T'ung ts'ao, Br. iii. 184; Pen ts'ao; Tatar; P.S.; C.R. Alpha. 878; T. & M.; St.; B.E.R.; Henry.

The two drugs are labelled (*a*) 'Grown in water Bangkok way', (*b*) 'Canton and the East'. They are both thin circular transverse slices of a woody stem (*a*) an inch or more in diameter and (*b*) $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter. The wood is yellowish arranged in vascular plates broken up by regular medullary rays and having holes like a sieve, large enough to allow air to be blown through; hence the name t'ung, 'permeable'. The specimens agree with those labelled *Akebia* in the Ph. Soc. Museum. Earlier writers identified the drug with species of *Clematis*, which may be the source of some of the supplies that pass through Newchang and Hankow. Dr. Henry tells us that Mu t'ung in Hupeh is *C. grata*, Wall., and in Shenking it is afforded by *C. heracleifolia*, DC. Hosie refers Hua t'ung and Mu t'ung to *Clematis grata* and other species. It is a favourite bitter drug in China. It is pronounced to be stimulating, diaphoretic, and stomachic and to quicken the senses and faculties.

12. **Alisma Plantago,** Linn. Alismaceae.

澤濁 : Tsê (enrich) choh (turbid): local name 'Chak sia'. 'A plant that flourishes in muddy water': Tsê hsieh, Br. ii. 95; iii. 192; Pen ts'ao; Tatar; P.S.; C.R. Alpha. 1354; T. & M.; J.R.; Hosie; A.H.; St.; B.E.R.; Ph. Soc. Mus.

The Water Plantain grows throughout Central and Northern China. The tuberous roots are gathered in the autumn and are exported from Hankow; those derived from Kansu, Shensi, and Szechwan are considered the best. They are round, ovoid, fleshy, and somewhat acrid. The drug consists of dry, thin, circular slices about an inch and a quarter in diameter, pale yellow, starchy, slightly bitter, and fragrant. Its action is tonic, refreshing, diuretic, and galactagogue.

The drug under this name is sometimes yielded by another water plant, *Sagittaria sagittifolia*, Linn. (B.E.R.)

13. **Allium Bakeri,** Regel, and other species. Liliaceae.

舊韮白 : Chiu chiu pai: Chiu (leek) pai (white): Kau kau pak. (Cant.): local name 'Kew pak'. Hsieh pai, Br. iii. 242.

The small bulbs of an onion have been used in medicine by the Chinese from very early times. In the Pen ts'ao, followed by Tatarinov, Debeaux, and others, a drug, Kau or Chiu pai is mentioned. Bretschneider speaks of the small bulbs of an onion growing in the swamps of Honan; the lower white part is dried and exported from Amoy. The drug in Annam is attributed to *A. porrum*, Linn., others place it under *A. ascalonicum*, Linn.

and *A. odorum*. No doubt the Chinese use several species of Allium with small bulbs, for both names Hsieh pai and Chiu pai are used in different parts of the country. The Malayan drug consists of small bulbs of an onion, about ⅓ inch in diameter, with the white remains of the leaves attached to the upper portion. They have a strong alliaceous odour and taste. They resemble in appearance and internal structure the bulbs of botanical specimens of *A. Bakeri*, the garden shallot cultivated in Northern and Central China. The drug is a tonic and stimulant. In India the Shallot is called the 'one clove garlic' and is used for ear-ache.

14. **Allium odorum,** Linn., and other species. Liliaceae.

韭菜子 : Chiu hsin tzü (onion seeds): locally called 'Kow chow chu'. Br. iii. 240; P.S.; T. & M.; C.R. Alpha. 203; Henry; Hosie; St.; B.E.R.

Chiu or Kiu is the usual name given to the Chinese leek or Scallion. The plant, which resembles the European leek, but is smaller in habit, is a native of Siberia and Mongolia, and in China and Japan it is widely cultivated in market gardens. The seeds are largely used in medicine, and are exported from Hankow. They are small, 3 by 4 mm., black, depressed on one side, with wrinkled and reticulated surfaces. They have a slight alliaceous taste. The seeds are said to purify the blood and to act as a cordial and tonic.

15. **Aloe spp.** Liliaceae.

Jadam is the Malay name for bitter aloes. The dried extract of the leaves is found in most Chinese drug shops and bears the name Lu hui, probably the transliteration of some foreign name, it is also called Siang tan (Elephant's gall) to express the bitterness of the drug. The drug occurs in black shining brittle pieces. There is evidence from the Customs Reports that the dried juice found in the local shops has been imported from abroad.

16. **Amomum amarum,** F. P. Smith. Zingiberaceae.

蓋智 : Kai (build) chih (wisdom): local name 'Yik chee' The name is given on the supposition that the seeds impart knowledge. 益智子 : Yih che tsze, Hanb. Sci. pa. 104, 252, Fig. 8; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 543; T. & M.; St.; B.E.R.; Ph. Soc. Mus.

Bitter seeded or Black cardamoms. The plant yielding this drug is said to grow in the provinces of Kwangtung, Kweichow, and Yunnan. The Hankow market is supplied from Canton. The correct botanical origin of these seeds is not yet established.

The capsules are ovoid, pointed at the extremities, 1·5 to 2 cm.

long. The pericarp is of a deep dusky-brown colour, coriaceous, beset longitudinally with interrupted ridges usually about 18 in number. The seeds are black, obtusely angular, and are distinguished by an aromatic, bitter, myrrh-like taste.

The drug has tonic, stomachic, and cordial properties. In Malaya it is administered for heart failure.

17. **Amomum aromaticum,** Roxb.: (*A medium*, Lour.: *A. Tsaoko*, Gagnepain). Zingiberaceae.

草菓 : Ts'ao (herbaceous) kuo (fruit): Ts'ao kuo (Cant.): local name 'Chow koh'. Hanb. Sci. pa. 105, 106, 250, Fig. 9; Pen ts'ao; Lour.; Tatar.; P.S.; T. & M.; Henry; C.R. Alpha. 1347; Thao qua (Annam).

The Ovoid China cardamom is a product of Southern China and is abundant in the drug shops of Singapore as well as in those of China. Hosie states that the centres of production are Western and South-western Kwangsi, Tonquin, and South Eastern Yunnan with the West River as the main outlet. Dr. Henry collected the plant yielding this drug in Yunnan. The specimen resembles *A. aromaticum*, a plant of Bengal and Assam the origin of the Hill cardamom of N. E. India. This is more probably the parent plant of the Ovoid cardamom rather than Loureiro's imperfectly described *A. medium*.

The fruit is oval or oblong, 3-celled, 3-valved, and obscurely 3-sided, or from 2·5 to 3·5 in length. The pericarp is dusky greyish brown, deeply striated longitudinally, thick and coriaceous, frequently covered on the surface with a whitish efflorescence. The seeds are large, sharply angular, hard and striated, having a peculiar aromatic smell and taste. The seeds distinguish the drug from the seeds of Round cardamom, or *Languas globosum*, with which they are sometimes confused. The seeds are used as a condiment and for a variety of disorders including dyspepsia and catarrh.

18. **Amomum echinosphaera,** K. Schum.: (*A. villosum*, Lour.). Zingiberaceae.

春砂 : Ch'un sha: called locally 'Choon sa'. Yang ch'un sha, Hanb. Sci. pa. 97–9, 251. Figs. 4 and 5; Lour.; P.S.; Ch'un sha hua; C.R. Alpha. 276; J.R.; St.; Ph. Soc. Mus. Yang ch'un Annam.; Sa nh'an, Coch. Chin. Not in the Pen ts'ao.

The Hairy Chinese cardamom. Loureiro states that *A. villosum*, a vaguely described species grows wild in Cochin China and the fruits are exported to China where they are largely employed in medicine. Hanbury records its occurrence in Kwangtung. The Yang ch'un hsien district of that province, where it is chiefly cultivated, gives the name to the plant. *A. echinosphaera*

(described in Fl. Gen. l'Indo-Chine, vol. vi. 1908, 106) occurs in Tonkin, Annam, and the mountains of Cambodia.

The capsules are about 15 mm. in length, oval, more or less three-sided, bluntly pointed with a scar at the summit, rounded at the base and attached to a short pedicel. The pericarp is externally dark brown, marked with obscure, longitudinal striae, more or less covered with asperities short, thick, and fleshy. The seeds are brown, angular, pitted, and on removal of the pericarp remain in a three-lobed mass. They have a camphoraceous taste blended with the aroma of Malabar cardamoms.

They are employed as a stomachic and cordial.

The sources of the Hairy and Xanthioid fruits are somewhat confused, for their composition and properties are similar. Another species, *A. ovoideum*, Pierre, of Cambodia and Laos, has a capsule ovoid, spiny and pedicelled, 20 mm. by 15 mm. broad, with spines fine, flexuose, compressed at the base. This, perhaps, is one of the sources of the Hairy cardamom.

19. **Amomum Krervanh,** Pierre. Zingiberaceae.

白豆蔻 : Pai (white) tou kou (nutmeg): called locally 'Pak tow khow'. Lour.; Tatar.; Hanb. Sci. pa. 109, 253; Br. iii. 58; T. & M.; C.R. Alpha 964; P.S.; St.; B.E.R.

Figured in Crevost and Lemarié, p. 299. Suk mil (Thibet).

This is the Round or Cluster, White or Siam cardamom. The plant yielding the fruit is a native of Cambodia and Siam. The specific name means cardamom as in the Krervanh or Cardamom Mountains in Cambodia.

In size and shape the cardamom of *A. Krervanh* is similar to that of *A. Kepulaga*, Sprague and Burkill (A. Cardamomum, *auctt.* but not *Linn.* in 1753), the Round cardamom of Java; but its taste differs somewhat.

These cardamoms have been known in Eastern commerce since the sixteenth century. They are exported in large quantities to China and Singapore from Bangkok and Cholon, the market of Cochin China. They are considered superior to other kinds. Their value is 300 piastres a picul of 60 kilos when ordinary cardamoms sell at 200 to 250 piastres (Pierre). Hanbury records the price of the best quality of Siam cardamom at about 5*s*. a pound.

The capsules are globular, about 15 mm. in diameter, sometimes distinctly three-lobed on the upper surface. The pericarp is glabrous, thin, fragile, of a buff colour, enclosing a three-lobed mass of seeds, brown-coloured, compressed, with a strong aromatic camphoraceous odour and taste.

The seeds are used as a spice and sometimes, mixed with betel-nut, as a masticatory, commonly served with betel-nut (un-

mixed) after Chinese feasts in North China. In medicine they are employed for ailments of the stomach, and for asthma and pulmonary affections and general debility.

20. **Amomum xanthioides,** Wall. Zingiberaceae.

砂仁: Sha (sand) jen (kernel): called locally 'Sai yin'. Sha jen k'o (husks only) Hanb. Sci. pa. 100–103, 250, Fig. 6 and 7; Lour.; Hsi sha jin (western sand kernels); P.S.; Shuh sha jin, T. & M.; J.R. (*A. villosum*); Husks, C.R. Alpha. 1076; So sha mi, St.; B.E.R.; Pen ts'ao. 縮砂蜜.

This amomum, affording the Xanthioid or Bastard cardamom, is a native of Burma, where it was discovered by Wallich in 1827. It also occurs in the Laos country and Cambodia, where the fruits are collected for the market. They are exported from Bangkok in Siam to Singapore and Chinese ports. The husks appear as an export through Canton as the main centre of trade. These fruits are considered inferior to other kinds of cardamoms and their market value is lower. The peculiarity of this drug is that sometimes the husks (k'o) are sold without the seeds, and sometimes the compact masses of seeds (shuh sha jin) without the husks. The empty capsules are devoid of aroma and it is not known what use they could have in medicine.

The capsules of the Xanthioid cardamom resemble those of the hairy variety except that the pericarp of the latter is more spiny in character. They are shrunken and compressed but after soaking in water they become nearly spherical, showing long acute recurved processes, longest near the base. The seeds of this cardamom are either detached or united with the partitions into three-lobed masses, held together by a white membrane. Their plump, bloomy-white appearance distinguishes them.

The seeds are used as a condiment, and for their tonic, stomachic, and carminative properties.

21. **Anemarrhena asphodeloides,** Bunge. Liliaceae.

知母: Chih mu (mother of ants' eggs because of the resemblance of the seeds, when they begin to germinate, to ants' eggs): locally called 'Chee moo'. Br. ii. 94; iii. 9; Hanb. Sci. pa. 259, Fig. 15; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 136; J.R.; Franchet; T. & M. under *Aletris japonica*, Lam.; St.; B.E.R.

This plant is common in the Northern Provinces. The leaves and flowers are said to resemble a leek. The rhizomes are collected in Shansi, Honan, and Chihli and exported from Tientsin; they are also used as a medicine in Japan. Value T. 3 a picul. The Singapore drug came from Anhuei.

The rhizome is about the size of the little finger. The upper side is flattened, and beset with coarse, appressed, ascending

rufous or yellowish hairs. The underside is convex and covered with thick radicle fibres or more usually with their scars. The interior is yellowish, spongy, and starchy. There are smaller pieces present, wrinkled and scarred. The drug has but little taste or smell.

The roots have lenitive, cooling and expectorant properties. They are recommended for employment in place of squills in colds and sore throats.

22. **Angelica anomala,** Pall. Umbelliferae.

白芷: Pai (white) chi (medicinal herb): Pak chi. (Cant.): local name 'Pak chee'. Pai chi hiang. Br. ii. 410; iii. 51; P.S. under *Iris florentina*; C.R. Alpha. 940; Parker; T. & M.; J.R.; St.; B.E.R.; Hosie; Ph. Soc. Mus.

The plant which grows in China as well as in Mukden, Amur, Korea and Japan, affords a fragrant root. The Malayan specimen came from Szechwan where Hosie reports a large trade in the root obtained from cultivated plants. That district, Hupeh, and Chekiang are sources of supply. It is exported from Hankow and Shanghai. *Angelica sylvestris*, Linn., and *A. inaequalis*, Max. are also said to yield the drug.

The root is like that of a parsnip. The drug consists of bundles of thin longitudinal slices of the root about 4 in. long, 1 in. at the thicker end tapering down to $\frac{1}{4}$ in. The sections are white and starchy with a fragrant odour of Celery or Fenugreek.

The root is often worn in the girdle on account of its fragrance. It is a favourite cosmetic and enters into several toilet preparations. It is specially considered a woman's drug and is therefore prescribed in a number of female complaints.

23. **Angelica polymorpha,** Max. var. **sinensis,** Oliver. Umbelliferae.

西歸豉頭: Hsi kwei ch'ih teo: Sai kwai ku tau (Cant.): Tang kuei, Br. iii. 46; Pen ts'ao; Tatar.; Kaempfer; Hanb. Sci. pa. 260, under *Aralia edulis*, S. & Z.; P.S.; T. & M. under *Ligusticum*; C.R. Alpha. 1250; Stuart under *Cryptotaenia canadensis*, the Honeywort of N. America, Faber's identification; Hosie; B.E.R. The name in Singapore is Sai kwai tow (Hsi, 'west', kuei, 'revert', t'ou 'head'), meaning a product from the west, i.e. Szechwan. The root represents a drug held in high esteem among the Chinese. It comes principally from the three Western Provinces, but is also prepared in Shansi, Shantung, and Chihli. Dr. Henry collected the plant in Hupeh and identified it as the source of the drug exported from Ichang and Hankow (Ic. Pl. 1999). It is cultivated in gardens at 7,000 ft. elevation, and the root is dug up in the second year of growth. According to Hosie the roots are divided into two qualities.

For export to other provinces the superior pieces are packed in wooden cases and bear the name Hsiang kuei, while those of inferior qualities are made into bundles and called Pao kuei. The ordinary drug is met with in brown, fleshy rootstocks, branching into a mass of large, close, pliant rootlets, something like Gentian root. The interior is soft and mealy of a whitish or yellowish colour or darker. The odour is very persistent, resembling that of Celery or Angelica, the taste is warm, sweetish, and aromatic. The drug is used for menstrual, chlorotic, and puerperal diseases of women. The vernacular name is derived from the supposed assertive power of the root to cause the wife to 'revert' to her husband.

The firm of Merck markets an extract of this drug under the name Eumenol. In Japan a *Levisticum* is substituted which has been amply described by Japanese writers.

24. **Anisomeles ovata,** Benth. Labiatae.

千草 : Ch'ien (1,000) ts'ao (herb): Ts'in ts'o (Cant.): local name 'Hee chin choo'.

The plant occurs in Hupeh, Kwangtung, Hupeh, and Formosa, and is distributed in tropical and sub-tropical India and in Malaya. The drug consists of fragments of square, dark-coloured stems with hoary, fragrant leaves. Regnault calls it 'Black Horehound' and includes it among the medicinal plants of Annam, but it does not seem to be known in Chinese medicine. *A. malabarica*, R. Br. is a well-known drug in South India. It would appear that these plants have the same properties as Horehound (*Marrubium vulgare*, Linn.).

25. **Aquilaria Agallocha,** Roxb. Thymelaeaceae.

正沉節 : Cheng (genuine) ch'en (to sink) chi: local name 'Sam chit'. Ch'en hsiang = fragrant (wood) that sinks (in water) Br. iii. 307; Pen ts'ao; Hanb. Sci. pa. 263.; Lour.; Kaempfer; Cleyer; Tatar.; Debeaux; P.S.; St.; B.E.R.

Lign Aloes, Eagle Wood, Aloes Wood, Calambac, Agallochum are names of a drug yielded by *Aquilaria Agallocha*, a tree of vast size growing in the mountainous parts of Cochin China and Laos, and extending westward into Sylhet and Assam. The prepared wood is a drug of great antiquity and is valued as a medicine and perfume. It is referred to in the Scriptures and in all works dealing with Eastern Materia Medica.

The drug consists of the hardened reddish-brown portions of the wood which contain oleo-resinous matter. These pieces are trimmed with great care so as to remove the lighter and less resinous portions. The wood is used largely in incense and in some parts for preparing an oil or attar by distillation. Tonic, stimulant, carminative, and aphrodisiac properties are ascribed to it.

26. **Aquilaria sp.** Thymelaeaceae.

沈香 : Ch'en hsiang (sinking, fragrant): local name 'Chien heong'. This sample is labelled 'Garros Wood' which is a Malayan name. Although the Chinese name applies to the genuine wood referred to in the last article, the drug is quite different. It consists of light-coloured fibrous pieces with parallel veins, devoid of aroma and taste. It may be the wood of another species of *Aquilaria*, or the lighter portions of the wood rejected in the preparation of the genuine Aloes Wood. Hanbury (Sci. pa. 265), with some doubt, refers to Ya heang, a light spongy wood derived from *A. chinensis* Spreng. It has coarse parallel fibres and is devoid of aroma, but has a bitterish taste.

(27) 鷄骨香 : Chi (hen) ku (bone) hsiang (fragrance): local name 'Kai gut heong'.

This is a Chinese medicine (C.R. Alpha. 48) produced locally in Canton province. Stuart gives it as a name for eagle or laca wood among those that refer to the form or part of the tree from which it is taken. It occurs as slices of a woody root or stem, 3–4 mm. in diameter, cut obliquely, with a brownish-yellow cuticle. It is bitterish to the taste.

28. **Arctium Lappa,** Linn. (*Lappa major*, Gaertn.). Compositae.

牛子 : Niu (ox) tzü (seed): called locally 'Ngow chee'. Niu p'ang, wu shi, 'evil fruit', Br. iii. 91. Niu pang tzü ; C.R. Alpha. 906; Pen ts'ao; Tatar.; J.R.; St.; B.E.R.; Hosie; Ta li tsz, C.R. Alpha. 1226, in Szechwan and Hupeh, A.H.; Ph. Soc. Mus.

The Burdock or Burweed is common in North and Central China and Manchuria. The fruits or burs are covered with hooked spines and receive the name 'evil fruit'. The seeds or achenes resemble the seeds of a grape, grey coloured, striated, angled, and 6 mm. long. The taste is pungent. They are exported from Hankow and Newchwang. The Malayan sample came from a Chinese port.

The drug is alterative, depurative, diaphoretic, and diuretic.

29. **Ardisia sp.?** Myrsinaceae.

金牛 : Chin (gold) niu (cow): Kam ngau (Cant.): local name 'Kam gow'. Tzü chin niu, Faber, St.; B.E.R.

*Ardisia japonica*, Blume, a plant with the habit of a tea-shrub, bearing red berries, grows in Fukien, Chekiang, Hupeh, Szechwan, and Japan. The root of this shrub is referred to as medicinal and is probably the source of this drug. Debeaux describes a drug, Kin niu, as small circular fragments of a root, pale yellow and very bitter, and refers it to a *Cocculus*. The

above drug is not from a menispermaceous stem. It is in oval transverse sections about an inch across. There is a thin brown bark and a soft yellowish wood, showing porous vessels and stone cells, and having a bitter taste.

Stuart says the root is used in influenza and as a carminative.

**30. Areca Catechu,** Linn. Palmaceae.

槟榔 : Ping (Areca) lang: Pan long (Cant.): local name 'Chini ping'. Br. iii. 287; P.S.; T. & M.; St.; B.E.R. Ping lang tsze (the nuts), Ping lang pien (the sliced nut): C.R. Alpha. 1025; Henry; Hosie.

The Betel or Areca Nut Palm. This graceful palm occurs in Cochin China, Malay Peninsula and Islands, and is cultivated throughout India and China. The nuts are produced in Kwang-tung and the island of Hainan, whence they are carried to Hong-Kong and appear in the Customs Returns as a foreign import along with nuts from Macao, Singapore, and British India. The Malay name Pinang means 'honoured guest' in allusion to the custom of presenting the nuts to guests on ceremonial occasions. Betel nuts are well known and are used as a masticatory throughout the East. The nuts are ovoid about $\frac{3}{4}$ in. in length, and are sold in circular slices showing the ruminated albumen. They contain tannin and active alkaloids arecoline and arecaidine. They have tonic, astringent and anthelmintic properties. The powdered nut is an efficacious remedy for tape worm. In veterinary practice its reputation as a vermifuge is well established.

**31. Areca sp.** Palmaceae.

大腹皮 : Ta (great) fu (inner) p'i (rind): locally called 'Tai fook phee'. Br. iii. 287; Tatar.; P.S.; St.; B.E.R.

Betel-nut husk is exported from Canton and Kiangchow. It is the fibrous, outer portion of the fruit of a species of areca, called Chü pin lang, although the ordinary species furnishes a similar rough coir-like substance. Read suggests *A. Dicksonii*, Roxb., as the source. It passes the customs as Tai fu p'i (Alpha. 1222) and Ping lang p'i (Alpha. 1228) (Ta fu tze is the name of the nut in the husk). It is used in medicine, not only in China, but also in Japan and Annam. It is in much request in flatulent, dropsical, or obstructive diseases of the stomach. It is said to have the same properties as the areca nut, and is given in choleraic affections.

(32) 槟榔花: Ping (Areca) lang hua (flower): Ping tsik fa (Cant.): local name 'Phun long fah'.

This is the fibrous rachis of the betel palm after the nuts have been removed. It is probably used like the husk, but it seems to be quite inert as a medicinal agent.

33. **Arisaema Tatarinovii,** Schott, and other species. Araceae.

周胆星: Chou tan hsing: Chau taam sing (Cant.): local name 'Chow tam sing'.

This drug is a preparation made from the roots of a plant. It is a white, gummy substance of a horny consistence, in small broken fragments. It disintegrates in water, leaving a white powder with no special odour or taste. Under the microscope it is seen to consist of starch grains, rounded, oblong, and shell-shaped. Dr. Henry (Econ. Bot. China, 34) says 'Tan hsing, of the Customs, exported from Tientsin, is made by pounding the tubers of T'ien nan hsing to a paste with ox-gall.'

Nan sing (Hanb. Sci. pa. 263), T'ien (Southern Cross or heavenly) nan hsing (C.R. Alpha. 1297) are names of drugs furnished by species of Arisaema, the compound tubers of which are thought to bear some resemblance to the constellation of Canopus. Loureiro, Hanbury, Tatarinov, and Smith refer the drug to *Arum pentaphyllum*, Linn., Kaempfer to *A. triphyllum*, Thunb., Hosie, Regnault, and Stuart to *Arisaema japonica*, Blume, and Dr. Read to *A. Thunbergii*, Blume. Dr. Henry found *A. Tatarinovii* (Br. iii. 148) a plant in the Peking mountains, to be the origin of the root exported from Chihli, and used with gall in the above preparation.

34. **Arisaema sp.** Araceae.

白付片: Pai (white) fu p'ien (slices): Pak fu p'in, Cantonese and local name. Called 'white' fu tsz to distinguish it from the root of Aconite which is called 'fu tsz'. Tatar.; P.S.; C.R. Alpha. 944; St.; B.E.R.

The aroid yielding this drug is said to grow in Szechwan, Korea, and Manchuria; the root is exported from Newchwang, Amoy, and Hankow.

Stuart and Read follow Loureiro in referring the origin to *Jatropha Janipha*, Linn. (*Manihot Loureiri*, Pohl), but the drug corresponds more with the root of an aroid than that of a Euphorbiad. In the Pharmaceutical Society's Museum it is correctly labelled 'Arisaema sp.'

The tuber is sold in slices. These are from a tuberous root one to one and a half inches across, with a brown epidermis. Internally they are mottled, black and white, withered and reticulated, firm and horny in consistence.

The drug is given in apoplexy, aphonia, chorea, and heat-stroke. The powder is used to remove pock marks and pigmentary deposits in the skin.

35. **Aristolochia debilis,** Sieb. and Zucc.: (*A. recurvilabra*, Hance). Aristolochiaceae.

[兒]鈴: Tou ling, a contraction of Ma tou ling: local name 'Loo to lui'. Ma tou, 'horse bell' (referring to the shape of the fruit). Br. iii. 54; Hanb. Sci. pa. 239; Pen ts'ao; Tatar.; Faber; P.S.; J.R.; T. & M.; Henry; Hosie; St.; B.E.R.; C.R. Alpha. 813; Ph. Soc. Mus.

The Aristolochias supplying these fruits grow in various parts of Central and Northern China. *A. contorta*, Bunge, of Peking and the Amur country probably yields the drug exported from Teintsin. *A. Kaempferi*, Willd., of Shantung and Japan afforded the drug described by Hanbury. The fruits of *A. debilis* are oval, from 1 to $1\frac{3}{4}$ in. in length, formed of six papery valves, enclosing large, flat, obtusely triangular winged seeds. The Singapore specimen which came from Canton is much broken and has no marked odour or taste. The fruits of Aristolochia are considered to resemble the human lung and are recommended for inflammation of the lungs and all kinds of pulmonary affections.

36. **Aristolochia sp.** Aristolochiaceae.

青木香: Ch'ing (green) mu (wood) hsiang (fragrant): Ts'ing muk heung (Cant.): local name 'Ching hok heong'. C.R. Alpha. 192. This is a drug mentioned by Tatarinov and Hanbury (Sci. pa. 253, 259) as a grey brittle root of the thickness of a goose-quill, with a slightly aromatic taste, but little smell. Dr. Henry (Chin. pl. 294) identifies the drug in Hupeh as a species of *Aristolochia*. Dr. Hance says the root of *A. recurvilabra* is called Green or Native putchuk and is exported from Ningpo as a substitute for the fragrant putchuk. The drug sent from Singapore under this name is the sliced stem 1 in. across, with radiating medullary rays. It appears to be a poor substitute for Mu hsiang or Bengal putchuk. For Mu hsiang see *Saussurea Lappa*.

37. **Aristolochia sp.** Aristolochiaceae.

石南行: Shih (rock) nan (south) hsing (creeper): called locally 'Siak nam hing'. Shih nan t'eng, South rock creeper, a plant that grows on the sunny side of rocks, Br. iii. 347; Twigs and leaves of a climber, C.R. Alpha. 889; Stuart and Read refer the drug Shih nan to *Rhododendron Metternichii*, Sieb. and Zucc., a plant of the Yangtsze Valley and Japan. Shih nan t'eng is a name also given to *Piper aurantiacum*, Wall. Bretschneider in his article on this drug, concludes that probably several plants are known by this name in different parts of China. The Malayan drug imported from Canton, consists of the leaves and small stems of an Aristolochia, and has no resemblance to a Rhododendron.

38. **Artemisia annua,** Linn. Compositae.

菁蒿: Ch'ing (green) hao (artemisia): local name 'Ching hoh'. Br. ii. 13; iii. 74; Pen ts'ao; Tatar.; P.S.; Ch'ing ho, C.R. Alpha. 186; St.; St.; Hosie, B.E.R.

Bretschneider describes under this vernacular name the tall fragrant plants of *A. annua*, *A. Dracunculus*, Linn. and *A. apiacea*, Hance. The root, stem, leaves, and seeds of these plants are all used in medicine.

The Malayan drug came from Canton; the broken flowering branches correspond with those of authentic specimens of *A. annua*.

Porter Smith says the green parts of the plant, which grows abundantly in waste places in Hupeh, are eaten as a vegetable. The dried leaves and stalks are used in skin diseases.

39. **Artemisia vulgaris,** Linn. Compositae.

蘄艾: Ch'i ai: K'i ai: called locally 'Khee ngai.' Ai, ngai, Br. iii. 72; Pen ts'ao; Lour.; Tatar.; Debeaux; Faber; P.S.; A.H.; Hosie; St.; B.E.R. I ts'ao (vulnerary herb), Chih ts'ao (burning herb), Chiu ts'ao (cauterizing herb); ai hao and peh hao are other names for this variable species. *Tanacetum chinense* A. Gray, is cultivated at Peking under the name k'i ai.

The common mugwort grows in all parts of China. There are many varieties of the plant, but the best kind called K'i ai or Ch'i ngai comes from Hupeh, Anhuei, and Fukien and is exported from Canton and Amoy.

Stuart describes four forms of the drug: (1) The dried leaves of the plant; (2) the dried twigs done up in bundles; (3) Moxa, the dried leaves powdered; (4) Ai ping, picked to pieces by hand.

The Malayan sample imported from China consists of the dissected leaves with a white hairy under surface. They are employed as a carminative and haemostatic. The oil of the leaves examined by Nakao and Shibue (1924) contains 50 per cent. of cineole, a sesquiterpene alcohol and its ester and a-thujone.

40. 艾茸: Ngai or Ai (mugwort) yung (tinder): local name 'Ngai yoong'.

Ai ping or Moxa punk is the peculiar cottony excrescence or tomentum from the underside of the leaves of one or more species of *Artemisia*, which constitute the material for making inflammable cones or moxa.

Moxibustion, or the method of cauterizing the skin by burning, is of very ancient date in China and Japan. Rumphius quotes its Portuguese origin. Baillière suggests that moxa is derived

from μύκης, a fungus, which in a dried state was used by the Greeks to burn the skin, as mentioned by Hippocrates.

Stuart says Ai jung is made by grinding the leaves in a stone mortar with water, separating the coarser particles, and drying what remains. Others refer to the cottony under surface of the leaves as the source. But it seems that true moxa is produced by an insect which punctures the plant, producing subsequently yellow, hairy galls.

To use the moxa, a small portion of the fibrous material is made into a pellet and placed upon the ulcer or place to be cauterized, and ignited. The number of diseases for which it is administered is very large; from itch to sterility.

The tinder or punk in the Singapore shop was imported from Canton. It consists of the hairs and portions of the leaf broken up to a coarse powder.

41. **Asarum Sieboldi,** Miq. Aristolochiaceae.

細辛: Hsi (slender) hsin (pungent): Sai san (Cant.): called locally 'Sai sun'. Br. ii. 414; iii. 40 and 41; Pen ts'ao; Tatar.; J.R.; P.S. under *Heterotropa asaroides*; C.R. Alpha. 389; A.H.; T. & M.; St.; B.E.R.

This species of birthwort grows wild in most provinces of China, as well as in Korea and Manchuria. The leaves resemble in shape the rounded hoofs of horses, and this has suggested the use of the root as a horse medicine. The Malayan sample came from Chiklai.

It is probable that other species of Asarum afford this fragrant and pungent root. Bretschneider refers to *A. Thunbergii* as one source. Hosie speaks of Hsi hsin from Szechwan the product of *A. himalaicum*, Hook. f. and Thoms. Regnault identifies the drug in Annam with *A. virginicum*, Thunb. (*A. albivenium*, Regel). The wiry and fibrous rootlets, arising from a rhizome, are aromatic, camphoraceous and pungent, especially when fresh. They are sometimes called 'Japanese Wild Ginger'. Taoists use the roots for scenting clothes. The drug is employed as an emetic, diaphoretic, diuretic, and purgative. It is largely prescribed in rheumatism and apoplexy. The powder is an active sternutatory and is given in treatment of nasal polypus.

42. **Asparagus cochinchinensis,** Merrill (*Melanthium cochinchinense*, Lour.; *A. lucidus*, Lindl.). Liliaceae.

天冬: T'ien tung: T'in tung (Cant.): called locally 'Thin toong'. T'ien men tung, Lour. Fl. Cochin, 268. Br. iii. 176; Hanb. Sci. pa., 257; Pen ts'ao.; Tatar.; Henry, Chin. Pl. 463; P.S.; C.R. Alpha. 1301.; J.R.; T. & M., St.; B.E.R.; Ph. Soc. Mus.

Loureiro states that the plant yielding these medicinal tubers

has linear leaves and prickles, and is frequent in China and Cochin China. It is cultivated in Chekiang, Shantung, and around Peking. Commercial supplies of the root come from Hankow, Wenchow, and Ningpo. The Singapore drug came from Anhuei. Hance and Henry identify the drug as above, but the plant affording the drug, however, is not confined to one species. Hosie alludes to T'ien tung in Szechwan yielded by *A. filicinus*, Buch.-Ham., and Regnault says the Annam root is mixed with that of *Anguillaria coccinea*.

The tubers are spindle shaped, of the thickness of a pen to that of a cigar, horny, translucent, and yellowish-brown. They are usually flattened, more or less contorted, having a mucilaginous, slightly sweetish taste, but no marked odour. Under the microscope, starch with hilum and bundles of acicular raphides are seen, also muriform cells and spiral vessels. The drug is considered to be diaphoretic, expectorant and tonic, and a nervous stimulant. It is administered in phthisis, and as a drink to allay feverish thirst. The root is sometimes preserved in sugar as a sweetmeat.

43. **Aster trinervius,** Roxb. Compositae.

紫苑 : Tsz (purple) yüan (imperial): Tsz uen (Cant.): local name 'Tsz yoon'. Br. iii. 102.; C.R. Alpha. 1422; T. & M.; P.S. under *Convolvulus*.; St. and B.E.R. under *Aster tataricus*, Linn.

A common plant with purple flowers in Northern and Central China. The root is the officinal part and is exported from Chinkiang and Amoy.

The root is reddish-brown, fibrous, and pliable, with portions of the stem attached. It has little or no taste, but is said to have a fragrant smell when fresh.

The drug is used for coughs and pulmonary affections, and in the treatment of malaria and haemorrhages.

44. **Astragalus Hoantchy,** Franch. Leguminosae.

川七 : Ch'uan ch'i: local name 'Choon chat'. Henry, Chin. Plants; Pen ts'ao; P.S. under *Sophora*; Br. iii. 2; C.R. Alpha. 510; St.; B.E.R.; Ph. Soc. Mus.

黃茂 Huang ch'i is an important drug in the Pen ts'ao; it varies in character and appears to be afforded by different species of *Astragalus*. *A. Hoantchy* was collected as a source of the drug by David in Mongolia. Of this kind 3,500 piculs are exported annually from Tientsin. According to Hosie this plant also supplies the drug from Szechwan. The Hupeh drug is derived from *A. Henryi*, Oliver. (Hook, Ic. Plant. t. 1959, 1890) a plant found by Dr. Henry in the Fang district, where it is cultivated. Other drugs of this class noticed in the Customs Reports are named T'iao ch'i, pai ch'i, hung ch'i, ch'in ch'i, and hsi ch'i. The root from Malaya Ch'uan ch'i, means Huang ch'i

from Szechwan. It varies from $\frac{3}{4}$ to $\frac{1}{2}$ in. in diameter, yellowish-white in colour, with thick bark and pithy centre. The knotted upper portion is sliced, showing the thick fibrous bark and soft wood and pith. It has no distinct odour or taste. The drug is in great repute as a tonic, pectoral and diuretic medicine.

45. **Astragalus sp.** Leguminosae.

北茂 : Pei ch'i (Northern ch'i): Pak shi (Cant.): local name 'Pak kee'. This is probably Huang ch'i from Manchuria and Chihli. It is the stem of the plant with whitish tasteless wood in thin slices.

46. **Atractylis ovata,** Thunb. Compositae.

蒼爪 : Ts'ang (red) chu (medicinal plant): local name 'Chong sooi'. Under Shu (chu) Bretschneider (iii. 12) describes this drug. It is called Shan kiang (mountain ginger) and Shan kie (mountain mustard) because of its pungency. There are two kinds: pai (white) chu, and chi or ts'ang (red) chu; the latter is reddish-brown and bitter and contains more resin. Pen ts'ao gives a figure of the plant yielding the latter, and this drug is chiefly referred to by Hanbury (255), Henry, Hosie, T. & M., and B.E.R. Porter Smith describes four kinds, and Stuart says there are three plants yielding the red kind. There are about nine or ten varieties of the drug passing through the Customs (C.R. Alpha. 961). These drugs come from Chihli, Szechwan, Manchuria, and Hupeh, and are exported from Newchwang, Tientsin, Chefoo, and Hankow. The drug from Malaya is labelled 'Prepared rhizome from Seongchow' (Che kiang). The root is finger-shaped, roughly moniliform, branching, 1 to 3 in. in length; cuticle rough, brown, beset with rootlets; the cut surface exhibits a spongy, whitish substance, spotted with a reddish resin. It has a slightly aromatic odour and taste.

The drug is stomachic and stimulant. It is a heart tonic in Annam. It enters into the composition of some of the most famous medicines as the 'Elixir of Longevity' and 'Elixir of Felicity'.

47 and 48. **Bambusa arundinacea,** Retz. Gramineae.

天竹芸 : T'ien chu yuen: T'in chuk wan (Cant.).

天竹黄 : T'ien chu huang: T'in chuk wong (Cant.): local name 'Thian chook wong'. T'ien chu is Shintu (Scinde) transliterated, indicating its Indian origin. Pen ts'ao; Tatar.; P.S.; Hosie; T. & M.; J.R.; St.; B.E.R.; C.R. Alpha. 211. Singkara (Java).

Under the name of Tabashir, a corruption of the Sanskrit Tvak-kshira, bamboo manna was known to the early Arab travellers in the East. The port of Thana on the west coast of

India was famous for its tabashir in the time of Idrisi (1135 A.D.) and supplied it to all marts. Ibn Sina describes tabashir as a useful medicine (*Pharmacographia Indica* iii. 589, Dr. Brandis, *Indian Forester*, xiii.). It is found in the joints of bamboos which grow profusely in Southern and Western China. Price T. 15 a picul.

The drug is a mineral or siliceous concretion of a black, greyish or white colour found in the culms of the bamboo. It occurs in irregular shaped pieces of various sizes. The black or grey colour is due to organic matter, and may be removed by ignition, when it becomes white and pearly. Superstitious properties are attached to it. It is said to be a sovereign remedy for catarrh, and an astringent and stomachic and useful in erysipelas.

49. **Belamcanda chinensis,** Lem.: (*Pardanthus chinensis*, Ker.; *Ixia chinensis*, Linn.). Iridaceae.

射干 : She (arrow) kan (shield): She kon (Cant.): local name 'Siai kan'. Br. iii. 153; Pen ts'ao; Tatar.; Lour.; P.S.; T. & M.; C.R. Alpha. 1120; Hosie; St.; B.E.R.

The plant grows throughout China, and from the Himalayas to Cochin China. It is peculiar in having a long stem resembling a lance or arrow, hence its name. It is cultivated largely in Honan and at Peking. The root is exported from Amoy and Hankow. The Singapore sample came from Yunnan. The rhizome is as thick as the little finger and cut into hard, longitudinal slices. Dark brown outside with transverse markings, and a few rootlets. Within, it is light yellowish-brown; taste bitter and acrid.

This is an important drug in the Pen ts'ao where it is recommended as expectorant, deobstruant, and carminative. It is given in pulmonary and liver complaints and for purifying the blood. In Malaya it is a remedy for gonorrhoea. According to Rheede it is an alexipharmic in Malabar, being given to those who have been bitten by the cobra, and to cattle which have fed upon poisonous plants.

50 and 51. **Benincasa cerifera,** Savi. Cucurbitaceae.

冬瓜 : Tung (winter) kua (gourd): local name 'Toong kwa'. Br. iii. 265; Pen ts'ao; Tatar.; P.S.; A.H.; J.R.; Hosie; Wilson; St.; B.E.R.

The White, Tallow or Wax Gourd, is cultivated all over China. It grows best when sown towards the end of the season, so it is called 'Winter gourd'. The fruits often attain a large size, and the surfaces are covered with a layer of wax which gives them a white appearance. Two drugs are yielded by these fruits: (*a*) the skin, (*b*) the seeds.

冬瓜皮 : Tung kua p'i (skin). The rind or skin (C.R. Alpha. 1391) is exported from Ningpo and Canton. It is thin, light brown, and is regarded as a cooling medicine. When incinerated, the ash is applied to painful wounds.

冬瓜仁 : The seeds, Tung kua tzü (C.R. Alpha. 1392), and kernels (C.R. Alpha. 1390), called Tung kua jin by Hosie, are exported from Hankow. The seeds are oval, yellowish-white, with a distinct border and a notch at the narrower end; the kernel is black and oily. The fried seeds are eaten as a delicacy with tea. They are considered to be tonic, nutritive, and demulcent.

52. **Betula utilis,** D. Don, var. Betulaceae.

樺皮 : Hua p'i (bark): called locally 'Khan phie'. Hwa mu, P.S.; C.R. Alpha. 498; St.; B.E.R.

The bark is called Hwa p'i and Shu p'i. Henry says Hua is the common name for Chinese White Birch, Shu or Ch'u is occasionally the name of *Ailanthus*. Specimen of bark in Ph. Soc. Mus. is labelled *Ailanthus*.

This Birch is abundant in mixed forests of the mountains of West Szechwan. Wilson observed that the bark was collected in large quantities and sent down by river to the plains where it is used as the inner lining of straw hats. Chinese saddlers, shoemakers, cutlers, and candle makers, also employ it in their trades.

The bark, which came from Szechwan, is sold in the shops in small rolls about $\frac{1}{3}$ in. in diameter. The bark is in papery layers, outside they are light brown with numerous dark brown lines or lenticels, the inner layers are whitish.

The bark is used in the form of decoction for jaundice and bilious fevers. It is said to stain the hair a black colour.

53. **Blechnum orientale,** Hook. Filices, Polypodiaceae.

管仲 : Kuan chung: Kun chung (Cant.): local name 'Koon choong'. Br. iii. 14; C.R. Alpha. 647; Hosie; Feng wei ts'ao, 'Phoenix tail plant', St.; B.E.R.

The fern rhizome sent under this name from Anhuei corresponds with the characters of the root and stem found on herbarium specimens of the above plant. The caudex is stout, erect, clothed at the base with fibrillae or dark-coloured scales.

The plant inhabits Australia and the Polynesian Islands and extends northwards to China and the Himalayas. The root is collected in Fukien and Kwangtung and is exported from Canton.

Bretschneider says Kuan chung is common in Mid China, and that the root in shape, colour, and hairy appearance, is like the

head of an owl. The source of the drug in Hupeh has been referred to several ferns. Dr. Henry has identified three of them as *Nephrodium Filix-Mas*, Rich., *Onoclea orientalis*, Hook., and *Woodwardia radicans* Sm. In Shantung *Aspidium falcatum*, Sm. has supplied the drug. (See *Cyclophorus*.)

54. **Bletia hyacinthina,** R. Br. Orchidaceae.

白芝 : Pai (white) chi (orchid): Paak k'ap (Cant.): local name 'Phak kep'. Br. iii. 25; B.E.R.; C.R. Alpha. 935; Henry; Lan hua in Peking, St.; P.S. under *Amomum*; Ph. Soc. Mus.

A common plant in mountain valleys in Northern and Mid China. The root is exported from Hankow and Ningpo. The Singapore sample came from Canton.

The drug is a corm, oval, flattened, umbilicated on one surface, or irregularly radiated. The interior is horny, translucent, hard, and white in colour, with a gummy, bitterish taste. When placed in water the root forms a thick mucilage which in Peking is used for manufacturing wainscoting. The root is called Kiu ken or 'mortar root', because it is good for making paste.

In medicine the drug is demulcent for children of dyspeptic tendency. It is also given in dysentery, haemorrhoids and ague.

55. **Blumea chinensis,** DC. Compositae.

九里明 : Chin (nine) li (mile) ming (bright): local name 'Kow lee meng': C.R. Alpha. 119; Matsumura, p. 334; B.E.R.

This plant is common in Yunnan, Hong-Kong and Western China. The leafy stalks came from Canton where it would appear to be a local drug. The Chinese name has also been given to *Senecio scandens*, Ham. An allied species, *Blumea balsamifera*, DC. in Hainan, yields Ngai Camphor (Ai na hsiang) (B.E.R.; Hanbury, *Science pa.*, pp. 393–5).

56 and 57. **Bombax malabaricum,** DC. Malvaceae.

The Malabar Silk Cotton tree is found in the tropical eastern Himalaya, the forest regions of India and Burma, Ceylon, Java, and Sumatra. The tree grows in Kwangtung and the south-west of China. It affords two drugs in this collection: the flowers and root.

(56) 木棉花 : Mu (tree) mien (cotton) hua (flower): called locally 'Mook min fah'. C.R. Alpha. 870; Ph. Soc. Mus.

The flowers are about 2 in. long, calyx cup-shaped, petals oblong and fleshy, reddish-brown, numerous filaments. They are used externally for boils, sores, and itch.

(57) 木棉根 : Mu mien ken (root): called locally 'Mook min kan'.

The root of this tree is known in the Customs Reports (Alpha. 871). Bretschneider (ii. 515) says the bark of the cotton tree is a drug exported from Canton. Other reference

to the tree and root are made in *Kew Bulletin* 1896, p. 70, and by Stuart, Read, and Porter Smith. The latter, however, refers the plant to *Euonymus*. The drug sent under this name consists of transverse slices of branches or stems of a tree, about 1 in. in diameter with no special characters. It cannot be stated with any confidence whether the drug is from the silk cotton tree or not.

58 and 59. **Bonnaya reptans,** Benth. Scrophulariaceae.

韓信草: Han hsin ts'ao: local name 'Han sin chow'.

定經草: Ting ching ts'ao: local name 'Thin keng chow'.

The first name occurs in the Customs List (Alpha. 358) as a local Canton product.

The second name is given in the same list (Alpha. 1304) as a drug exported from Fukien. The names in the collection refer to the same plant; a small herb about 2 to 3 in. high, with root, stem, and leaves. It appears to be a local product and not an officinal Chinese drug. Bonnaya is a small genus of herbs found in tropical and sub-tropical Asia; widely distributed in India and Malaya.

60. **Boswellia sp.** Burseraceae.

乳香: Ju (milk) hsiang (fragrance): Ue heung (Cant.): local name 'Joo heong'. Br. iii. 312; Tatar.; P.S.; J.R.; T. & M.; C.R. Alpha. 563; St.; B.E.R.

Olibanum, Frankincense, or Thus is a fragrant oleo-gum-resin collected in Eastern Africa and Southern Arabia. It exudes from the trees as a milky juice which hardens on exposure to the air. Bombay is the emporium of this drug which is exported to China and Malaya. This accounts for one of its Chinese names, 'Western perfume'. It is a stimulating and healing plaster for boils and ulcers, and is administered internally for leprosy and scrofula. The chief use of olibanum, however, is as an ingredient in incense.

61. **Brassica chinensis,** Linn.: (*B. campestris*. Linn., subsp. *B. chinensis*). Cruciferae.

白菜: Pai (white) ts'ai (vegetable) ping (cake): called locally 'Pak chai piang'. Br. iii. 245; 'Sung', Pen ts'ao; Debeaux; P.S.; St.; B.E.R.

Chinese cabbage or Sung is cultivated in the north of China and in the valley of the Yangtsze for its leaves which are esteemed as a pot-herb as well as for the oil expressed from the seeds.

The plant is represented in the drug shops as dry, round, light-coloured cakes of vegetable matter made from the broken leaves. The cakes are about 2 in. in diameter and $\frac{1}{4}$ in. thick.

Dr. Read of Peking says they are known as 'Cabbage Cakes'. The entire plant is antiscorbutic, arthritic, and resolvent, and these virtues are supposed to reside in the prepared cakes which are kept in the shops all the year round. They have been found to contain a large amount of various vitamins (see Hsien Wu, in *Chinese Journ. Physiol.*, 1928, Bulletin upon Metabolism).

62. **Brassica juncea,** Coss. Cruciferae.

白芥子 : Pai (white) chieh (mustard) tzü (seed): local name 'Pak kai tsz', Kiai (kie) Br. ii. 362; iii. 246; P.S.; T. & M.; Pai chieh, C.R. Alpha. 96, 938; Hosie; St.; B.E.R.; Ph. Soc. Mus.

Chieh is a mustard plant which resembles the Sung, but the leaves are more hairy and have a pungent taste (Br.). This white mustard is cultivated for its seed in most parts of China; Szechwan, Chihli, and Shantung are mentioned as the provinces of greatest production. In Japan, *B. cernua*, Thunb., is said to be grown for its seed. The seeds are light yellow and 2 mm. in diameter. Mustard seed at one time was a Buddhist unit of long measure. Kie tsz are exported from Chefoo, Amoy, Shanghai, and Hankow. The price in East China is T. 2·5 a picul. Mustard seeds are warming, sudorific and a well-known aid to digestion. The oil expressed from the seed is employed in cooking. In medicine the oil is used as an embrocation and is applied to the skin in eruptions and ulcers—though it is not used in China to the same extent as in India.

63. **Buchnera cruciata,** Ham. Scrophulariaceae.

羽前大 : Yü ch'ien ta: local name 'Yee cheen'.

This is a small plant, 6 to 16 in. high, with bright blue flowers, growing on dry grassy slopes among scrub in South China and N.E. India. The dry stem and spiked flower heads constitute the drug; they are dark coloured, and cut up into pieces about an inch long. The name of this plant does not appear in the available lists of Chinese drugs.

64. **Buddleia officinalis,** Max., and other species. Loganiaceae.

蒙花 : Meng (Mongol) hua (flowers): local name 'Moong fah' Mi meng hua, C.R. Alpha. 843; A.H.; Hosie; St.; B.E.R.; Ph. Soc. Mus. (The flowers exhibited are those of *Edgworthia chrysantha*, Lindl., A.H.).

There are numerous species of Buddleia in China, and the flowers are greatly admired, Buddhists call them Shin chin hua 'watered satin brocade flowers'. The above species is distributed along the Southern provinces. *B. curviflora*, Hook. and Arn., according to Hosie, supplies the drug in Szechwan. The dried

flowers sold in Malaya came from Canton. The small tubular brown corollas with stellate hairs are mixed with stalks and portions of leaves. These flowers are used almost exclusively for diseases of the eye, especially opacities of the cornea, but also for affections of the liver.

65 and 66. **Bupleurum falcatum,** Linn., and other species. Umbelliferae.

柴胡: Ch'ai (firewood) hu (foreign, of N.W. origin, hemp, pepper): local name 'Chai foo'.

銀柴胡: Yin (silver) ch'ai hu: Ngan ch'ai oo (Cant.): local name 'Yin ch'aiwoo'. Br. iii. 29; Tatar.; P.S.; C.R. Alpha. 16,1148; J.R.; Mat. 57; Hosie; St.; B.E.R.; Ph. Soc. Mus., sample from Singapore.

The plant is common in North and Mid China; the old plants are used for firewood, hence the Chinese name. In the Peking mountains the drug is supplied by the above species and *B. octoradiatum*, Bunge; the best kind called Yin ch'ai hu is said to come from Shensi. The drug is exported from Tientsin, Hankow and Chinkiang; the price ranging from T. 2·5 to T. 5 a picul. *B. sachaliense*, F. Schmidt, (*B. jucundum*, Kurz), according to Regnault, is the source of the drug in Annam.

The drug consists of the rootstock and roots, the latter thin, 3–5 mm. in diameter, brown, tough, and almost devoid of aroma.

Yin ch'ai hu is a larger root and occurs in thin longitudinal slices of a soft woody structure with wavy fibres.

The root causes perspiration; it is said to be effective in thoracic and abdominal inflammation and fever, and useful in flatulence and indigestion.

67. **Caesalpinia Sappan,** Linn. Leguminosae.

蘇木: Su (to revive) mu (mood): local name "Soo mook". Su fang mu, P.S.; St.; B.E.R.; C.R.; J.R.; Ph. Soc. Mus. sample from Singapore. Govang (Indo-China), Sepang (Malay).

Sappan wood comes largely from Sumbawa, east of Java, also from Siam, Cochin China, and Malaya.

The wood was an important article of commerce in the middle ages and is still used as a colouring material in the East.

The wood occurs in small billets, chips, and match-like strips, of a rich orange-red colour. Porter Smith says there is an inferior wood called Yang muh, much lighter in colour.

Since it dyes a red colour it is supposed to have a special affinity for the blood. It is therefore used as a vulnerary for wounds, haemorrhages, and disturbance of the menstrual functions. It is also considered astringent and sedative.

68. **Campanumoea pilosula,** Franch., or **Codonopsis Tangshen,** Oliver. Campanulaceae.

防黨 : Fang (protect) tang (party): local name 'Fong theong'.

Fang tang is Tang shen from the Fang district of Hupeh, C.R. Alpha. 1251; Gauger; Tatar; P.S. under *Campanula*; Br. iii. 4; J.R.; Henry, Ic. Plant. 1966; St.; Wilson, *A Naturalist in W. China*; Ph. Soc. Mus.

Tang shen is distinguished in commerce by several designations indicating its source and manner of packing. Fang tang shen is one of the ginseng substitutes produced in Hupeh, Shensi, Shansi, and Szechwan. Wilson says the plant yielding it is cultivated in the mountains of the Hupeh-Szechwan frontier, and the thickened rootstock is greatly valued. Henry found *Codonopsis Tangshen* in Hupeh, and the thick roots with a sticky juice when fresh, were exported from Hankow and Ichang. Similar roots are observed on botanical specimens of *C. lanceolata*, Benth. and Hook f., from Szechwan, and *C. meleagris*, Diels, from Yunnan. The root from Malaya occurs in short transverse sections, 1 cm. across, showing a grey-brown, angular, wrinkled surface; in the centre is a light brown ligneous cord surrounded by dark brown cells full of juice, sweet to the taste like malt. Like Ginseng, the drug is an all round tonic and stimulant.

(69) 各黨 : Lu tang: Lo tong, Cantonese and local name. Lu tang is Tang shen from the Luan prefecture of Shansi, C.R. Alpha. 774, 1251. This is another ginseng substitute and is exported from Tientsin. The botanical origin is not definitely known, but the root bears some resemblance to Fang tang and it is probably derived from one of the above campanulaceous plants or an allied species.

The sample of Lu tang is met with in long, tapering, slender, pale-yellow, or reddish-yellow pieces, slightly twisted and thickened at the crown. It is smaller than Fang tang, 3–5 mm. in diameter, and lighter in colour, wrinkled and furrowed longitudinally and transversely. The central woody core is 1 mm. in diameter, and is surrounded by a dark brown ring. The taste of the root, like the former drug, is sweetish and resembles malt.

70. **Campsis grandiflora,** (Thunb.), K. Schum. (*Tecoma grandiflora*, Delaun.). Bignoniaceae.

靈消花 : Ling (spirit) hsiao (dissolving) hua (flower): local name 'Leen seiw fah'. Br. ii. 165; iii. 170; Lour; Tatar.; P.S. under its synonym. *Bignonia*; Parker; C.R. Alpha. 188; St.; B.E.R.; Ph. Soc. Mus.

This handsome climber occurs in North and South China and

in Japan; it is cultivated in gardens for the sake of its flowers. One of its Chinese names means 'striving skywards', alluding to the creeper flowering on the summit of high trees. The dried reddish flowers are 5–6 cm. long, salver shaped and five cleft. They are exported from Shanghai and Canton. In medicine they are used specially for female complaints. The flowers are referred to here, but the drug sent under this vernacular name consists of the flowers of *Plumeria acutifolia*.

71. **Canavalia gladiata,** DC. Leguminosae.

The large, black, oblong seeds of this plant, 2·5 cm. broad and 4 cm. long, are sold in the Malay drug shops under the name of Kachang parang. The seeds are of an allied species, *C. ensiformis*, DC., pass through the Chinese Customs as 刀豆 Tao tou (sword bean) C.R. Alpha. 1256, and are probably produced in the Fukien and Kwangtung provinces. The long pods are much relished as an article of diet and are said to benefit digestion.

72. **Cannabis sativa,** Linn. Moraceae.

夫麻仁 : Fu ma (hemp) jen (kernel): Fu ma yan (Cant.): local name 'Foh mah yin'.

大麻 : Ta ma; 火麻 : Huo ma (fire hemp); Huang ma; Hsiao ma; Br. iii. 217; P.S.; J.R.; C.R. Alpha. 486; Henry; Hosie; Wilson; St.; B.E.R.

The terminology of the Ma or textile plants is very confused as the name is applied to linseed, sesamum, and castor oil. The hemp plant is cultivated from Shantung to Szechwan for its oily seeds as well as for its fibre. The seeds are the part chiefly used in medicine. They are small shining achenes, lenticular in form and with white oily albumen. Tonic, alterative, emmenagogue, and laxative properties are ascribed to them. The expressed oil is used as a cosmetic and for the hair.

73 and 74. **Carthamus tinctorius,** Linn. Compositae.

紅花 : Hung hua (red flower): local name 'Hong fah'.

西紅花 : Hsi (West) hung hua: local name 'Sai hong fah'. Hosie; C.R. Alpha. 530; Pen ts'ao; P.S.; Hung lan hua B.E.R.; St.; T. & M.; A.H.; Ph. Soc. Mus. Kusumba (India).

The safflower plant was introduced from Turkistan into China by Chang Kien, and is especially cultivated in Hunan and Szechwan. The red florets are used as a dye, and are sold either in bulk or in little compressed packets. In Singapore the two kinds are employed. The second sample, distinguished as Hsi (West or Indian), is wrapped up in packets covered with black paper to preserve the freshness of the drug and protect it from the light.

Although chiefly used as a pigment Carthamus flowers have stimulant, sedative, and emmenagogue properties, and are supposed to affect the heart and the liver and prevent the formation of white corpuscles in the blood.

75. **Cassia angustifolia,** Vahl. Leguminosae.

番鴻楪: Fan (foreign) hsieh (purging) yeh (leaves): local name 'Siah yip'. Ta hwai yeh, P.S.; C.R. Alpha. 450; B.E.R.; Ph. Soc. Mus.

These are the ordinary Indian senna leaves imported into Singapore; they are commonly sold in various cities of China under the same name. The leaves are 2·5 to 3 cm. long by 6 to 8 mm. broad, unequal at the base and elongate-lanceolate in shape. Porter Smith says the leaves of a *Sophora* have been found to answer the purpose of Alexandrian and Indian senna as an aperient. They are much larger than true senna leaves.

76. **Cassia Tora,** Linn. Leguminosae.

草決: Ts'ao (plant) chüeh (to discern): called locally 'Chow keat'. Ts'ao chüeh ming. Tatar.; P.S.; Hanb. Sci. pa. 231; Br. iii. 110; C.R. Alpha. 1341; J.R., T. & M.; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The plant grows as a weed throughout China and India, and is generally diffused in the tropics. The seeds are exported as a medicine from Canton.

The seeds are 2 or 3 lines long, cylindrical, pointed at one extremity and rounded or truncated at the other; colour dark brown. They are used externally and internally for all sorts of eye diseases, as the name indicates; preparations of the seeds are also given for liver complaints and boils. In India the plant is used for destroying ringworm. Elborne in 1888 found emodin in the seeds, a principle resembling chrysophanic acid, which is an acknowledged remedy for ringworm and similar skin eruptions. The leaves of the plant are said by Indian physicians to be a substitute for senna.

77. **Caucalis Anthriscus,** Scop. (*Torilis anthriscus*, Gmel.) Umbelliferae.

孛虱: Ho shê (floating louse): Foo shat (Cant.): local name 'Hok sat'. Ku sheng, tsei i (stealing clothes), Kou shê (dog's louse); kuei mai (devil's wheat) Br. ii. 91; iii. 216; Tatar.; P.S.; A.H.; Ph. Soc. Mus.

The Hedge Parsley is distributed in Northern Asia, Europe and Northern Africa.

The fruits are yellowish, about the size of wheat grains, hispid and covered with prickles, characters for which appropriate names are given in the vernacular. Ku sheng is occasion-

ally exported from Hankow, but this is probably the name for seeds of *Nigella sativa*. The Malayan sample came from Szechwan where the fruits are called 'Flower of grass'. They are used for 'worms and opium smokers'.

78. **Celosia argentea,** Linn. Amaranthaceae.

青相子: Ch'ing (green) hsiang tzu (seed): Ts'ing seung tsz, (Cant.): called locally 'Ching seong chee'. Br. iii. 82; Pen ts'ao; Lour; Tartar.; P.S.; T. & M.; Ch'ing hsiang, St.; B.E.R.; Ph. Soc. Mus.

This is a species of Cockscomb found throughout tropical Asia. It is called Wild Cockscomb, and resembles *C. cristata*, but it is always regarded as a distinct species and is called by a different vernacular name. The dried plant is antiscorbutic and cooling. Ningpo furnishes a large quantity of seed for medicine. The seeds are smaller than those of *C. cristata*, and have a reputation for clearing the vision and healing diseases of the eye. The name suggests 'green jequirity seeds'.

79. **Celosia cristata,** Linn. Amaranthaceae.

鷄關花: Chi (fowl) kuan (crest) hua (flowers): local name 'Kai kwan fah': Tatar.; P.S.; J.R.; Debeaux; C.R. Alpha. 50; St.; B.E.R.

The Cockscomb is common in China where are cultivated at least three varieties, with red, yellow, and white flowers. The plant is consumed as a vegetable, and the dried flower-heads and seeds are sold in the drug shops.

The small, black, shining, lenticular seeds are employed in disorders of the blood as haemorrhage and menorrhagia, and for making emollient lotions for ophthalmia.

80. **Centipeda orbicularis,** Lour. (*C. minima*, Kuntze; *Myriogyne minuta*, Less.). Compositae.

我鳥歹食: E or O (Goose or bird) tai (bad) sh'ih (food): local name 'Yoo pak seek'. Shih hu sui, B.E.R.; Chu ts'ao, Watters; Pe kong chau (Local druggist); Chikkana, Chhikika (Sanskrit).

Sneezewort. The dried herb is sold with its leaves and small fruits matted together. It is collected in Shantung, Kiangsi, and Kwangtung. It is an Indian drug and has probably been introduced into China and Malaya.

The leaves of this plant are thrust up the nostrils of persons affected with ophthalmia (Watters). In India and Ceylon the plant is used as a sternutatory and to relieve headache and colds in the head. (P.I.).

The plant contains essential oil, myrioginic acid, and bitter principles.

81. **Cercis chinensis,** Bunge. Leguminosae.

京皮 : Ching p'i. Ching (the old name of the province now comprised under Hupeh and part of Honan) p'i (bark): local name 'Keng phee'. C.R. Alpha. 1408; Br. ii. 356, 521; Tzu ching, St.; B.E.R.; Ph. Soc. Mus.

This is the Judas tree or Red bud, a native of Asia from Syria to Japan. On account of its fine purple flowers and graceful habit it is much cultivated in gardens. It has sometimes been confounded with a species of *Vitex*, which is known as 'ching' 荆, and the bark as 荆皮 : ching p'i.

The bark is in quills, channelled longitudinally or in sliced curved pieces, dark brown in colour, 5 mm. in thickness, covered with whitish lichen outside, and astringent to the taste.

The drug is said to be good for headache and catarrh. Stuart reports that the wood and bark are as bitter as gall and are used for diseases of the bladder.

82. **Charcoal (Vegetable).**

百草霜 : Pai ts'ao shuang: Paak ts'o seung (Cant.): local name 'Pak chor sing'.

Porter Smith gives this name for charcoal although the usual name is t'an. Shuang is a name given to frost or to powder of a white or black colour like quinine or soot. According to Stuart and the Customs List (Alpha. 966) the above name is given to soot, which is administered as a styptic, absorbent, alterative, and topical remedy. In the Pen ts'ao charcoal for medicinal purposes is said to be made from oak wood. Norman Shaw (*Chinese Forest Trees*, 1914) informs us that oak is still the usual source of charcoal. It is sold in the form of lumps the size of a walnut. Mixed with honey, charcoal is given for throat complaints, and is combined with other drugs in the treatment of dysentery. The powder mixed with sesame oil is applied to burns and scalds.

83. **Chrysanthemum indicum,** Linn. Compositae.

白菊花 : Pai (white) chü (chrysanthemum) hua (flower); local name 'Pak kook fah'. Br. ii. 404; iii. 69; Tatar.; P.S.; J.R.; C.R. Alpha. 942; St.; B.E.R.; Ph. Soc. Mus.

Several varieties of chrysanthemum are common in China, the flower heads of which are used in medicine. The principal kinds found in the shops are called pai (white), huang (yellow) and yeh (wild) chü. The drug under notice agrees with botanical specimens of *C. indicum*, although the books are not clear in distinguishing the different specific sources. White chrysanthemum flowers are exported from Swatow and Chekiang. The flower heads are made into tonic and sedative preparations.

Infusions are frequently applied as a collyrium in eye affections. In Malaya the flowers are obtained locally and are used for sore eyes and to promote longevity.

84. **Chrysanthemum sinense,** Sab. Compositae.

黃菊 : Huang (yellow) chü (chrysanthemum): local name 'Wong kook'. Br. ii. 404; iii. 69; Lour.; Mat.; S. & T.; Henry; Hosie; St.; B.E.R.

This yellow-flowered composite is found wild and cultivated all over China; it is a well known garden plant and is the principal species to which the name chü is applied. Huang chü is a drug exported from Chinkiang. In a dried state the yellow flowers do not differ much from the white chrysanthemums. The disks of both are yellow, and the rays of the former are sometimes rose coloured. In therapeutics they are regarded as practically identical. The flower heads are made into a decoction, or soaked in wine, and administered in maladies connected with the eyes and head.

85. **Cibotium Barometz,** J. Smith (*Dicksonia Barometz*, Link, *Polypodium Barometz*, Linn.). Filices-Polypodiaceae.

狗脊 : Kou (dog) chi (backbone): Kau tsek (Cant.): local name 'Kow chiak'. Br. iii. 13; Hanb. Sci. pa. 120–125; Loureiro; P.S.; C.R. Alpha. 606; St.; J.R.; B.E.R.

The hairy rhizome of this fern sometimes resembles a lamb, hence the specific name 'barometz', Russian for lamb. It is the Agnus Scythicus of Loureiro, or Tartarian or Vegetable Lamb, a drug of great repute alluded to in medical works of the sixteenth and seventeenth centuries. The plant is common in China, and it extends from Assam to Malaya and the Philippine Islands. The Malayan sample came from Canton. The drug consists of the lower part of the caudex, reddish brown in colour, in longitudinal slices, covered on the outside with golden brown moniliform hairs suggesting the fur of an animal. The root is employed as a tonic and is said to exercise a special action on the genito-urinary organs. It is also given for lumbago, according to the law of signatures. In Annam, like other fern roots, it is a vermifuge. The golden brown hair is called in Malaya 'Penawar jambi', and is used for stanching wounds. In 1856, Hanbury wrote an interesting paper (l.c.) on this drug, and described it as a new styptic. Its action is mechanical.

86. 过絲龍 : Kuo (to cover over) ssu (silk, thread) lung (dragon) meaning 'covered with dragon's hair': Local name 'Ko kong loong'. This is probably the article catalogued in the Chinese Customs Report (Alpha. 681) called Kuo cheang lung, a local Cantonese name.

The drug from Malaya is labelled 'From China and locally' and consists of pieces of the lower part of a fern caudex. The name and character of the drug present some resemblance to the Tartarian Lamb, except that all the hair has been carefully removed. It is presumed that the crude root or stem of the fern is sometimes scraped and sold separately from the hairy tomentum.

87. **Cinchona Calisaya,** Weddell. Rubiaceae.

納皮 : Nah p'i: Naap p'i (Cant.).

Cinchona or Peruvian bark is called locally 'Kai na phee', na being the last character or syllable of the sound for cinchona, and p'i representing 'bark'. Porter Smith uses the names Kin tan p'i and 金鷄納 Kin ki na as the Chinese names for cinchona bark, the latter name is most commonly used to-day and is the official Chinese name. He adds 'The latter name expresses the colour, value, and nature of this most useful drug especially in the form of yellow bark'. Stuart calls it Chin chi lo. In the appendix to the Pen ts'ao it is said that foreigners of Macao introduced the drug in 1801. Its specific action in the cure of malarial fever was soon recognized, and the bark was used long before the introduction of quinine. The drug is represented in the Singapore collection by a piece of the yellow bark from India or Java.

88. **Cinnamomum Camphora,** Nees. (*Camphora officinarum*, Nees). Lauraceae.

樟木子 : Chang (camphor) mu (wood) tzü (seed): local name 'Cheong mook che'. Chang, Br. ii. 513; J.R.; C.R. Alpha. 24; St.; B.E.R.

The Camphor tree is common in Middle and Southern China. It abounds principally in the province of Kiangsi and in Formosa. It is also plentiful in Japan. The Chinese name is said to be derived from Yu Chang, an ancient name for Kiangsi. In addition to the camphor or stearoptene prepared by distillaton of the wood, the parts of the tree entering into commerce are the twigs, the bark, and the fruits.

The fruits are of the size of marbles, of a brown colour, irregularly shaped, corrugated on the surface with an aromatic flavour and pungent taste of camphor. The fruits are not normal, as they appear to have been punctured by insects, like the fruits of certain species of Cinnamon in India.

89. **Cinnamomum Cassia,** Blume. Lauraceae.

桂皮 : Kuei (Cassia or Cinnamon) p'i (bark): Kwai p'i Cant.): local name 'Kwai phee'. Br. iii. 303; Tatar.; P.S.; St.; B.E.R.; Kayu manis (Malay).

The Cassia bark tree grows in Honan, Kwangsi and Kwangtung, the southern provinces of China. 'Vast quantities both of Cassia seeds and Cassia lignea are annually brought from Kwangsi (whose principal city derives its name from the forests of Cassia around it) to Canton and then shipped off at about 24 dollars a picul to England.' (Reeves. *Chinese Mat. Med.*, 1828).

The bark is darker and thicker than Ceylon cinnamon. The thin bark, curved or rolled in tubes, is considered best for medicinal purposes. There are two other kinds: one in flat and thick slices, and the other only partly rolled and slightly curved inwards.

Bretschneider classifies the Cassia products, exported from Canton, as follows: (1) Kuei p'i, the Cassia bark, just noticed. (2) Kuei chih, cassia twigs, (3) Kuei chih p'i, bark of twigs, (4) Kuei tsz, cassia buds or immature fruits.

(90 and 91) 桂支: Kuei chih: Kwai chi (Cantonese and local name).

桂支尖: Kuei chih chien: Kwai chi tsim (Cantonese and local name).

These are names for the broken twigs and branches of the Cassia tree. Br. iii. 303; C.R.; Hosie. Porter Smith observes that samples in the Hankow drug market were small twigs and branches cut transversely having very little flavour. On the other hand it is reported that the twigs and ends of the branches are exported from Szechwan for distillation of the oil. The Malayan samples, from Kwangsi, are of two kinds: small twigs about an inch in length, and short pieces of the same in transverse slices. They have a faint odour of cassia.

(92) 桂木: Kuei (cassia) mu (wood): local name 'Kwai muk'. Br. iii. 303; Stuart. This sample is composed of transverse woody slices of the branches or small stems of the tree, about 1 in. in diameter, and having a faint odour and taste of cinnamon or cassia.

(93) 桂尾: Kuei (cassia) wei (tails): Kwai mei (Cant.): local name 'Kwai bee'. This drug is composed of thin longitudinal slices of a light brown root, about 1 cm. in breadth and from 5 to 7 cm. long. It has no odour or taste.

94. **Citrus Aurantium**, Linn. Rutaceae.

廣橘皮: Kuang (Canton) chü (orange) p'i (peel). Local name 'Kor phee'.

This is probably the Ch'eng or Coolie orange and Kuang chü

or Canton orange of Stuart. Keuh pih, Hanb. Sci. pa. 239; Tsing koei pi, green mandarin orange of Annam, J.R.

The Malay sample came from Canton and consists of two kinds of peel. The first is the skin of one whole orange cut into three pieces and dried. The other is a sample of similar orange rind, cut up into reddish brown filamentous threads. Both drugs are fragrant and bitter.

95 and 96. **C. Aurantium,** Linn. var. (*C. sinensis,* Osbeck.).

A variety of tight skinned sweet orange from Kwangtung. This appears to be the origin of two more drugs of the citron family: 橘紅: Chü (orange) hung (red): Kat hung (Cant.): locally called 'Kit hoong'; P.S.; C.R. Alpha. 228 from Fukien. Two grades of peel are included under this name. One in thick slices, externally dark brown, covered with a yellow bloom consisting of short hairs, and inner surface dirty white. The other is also thick, but not hairy on the outside; the pieces of peel, about 2 in. long and 1 in. broad, are cut like the fingers of a hand. They are also sold in the form of 6-rayed stars. The hairy skin is sold at a high price in South China. Under the name of Hua chou chü hung this drug is mentioned in the Pen ts'ao.

The flowers are called 橘紅花 Chü (orange) hung (red) hua (flowers), local name 'Kat hong fah'. The dried flowers pass through the Customs (Alpha. 229), and come from Fukien and Chekiang. They are broken fragments of orange flowers of a light brown colour with a bitterish taste.

97. **Citrus grandis,** Osbeck (*C. Aurantium,* Linn., var. *decumana,* Linn.; *C. decumana,* Risso). Rutaceae.

柚核: Yu (pumelo) ho (kernel): local name 'Yam vat'.

Yu or Hui is a fruit of the Citrus family which has been known from the days of the Great Yü, who mentions it in his tribute roll. Hu kan, 'jug orange', is another name for the fruit because of its occasional shape. Besides the seeds represented in this collection, the peel (Yu p'i) and flowers (Yu hua, C.R. Alpha. 1540) are used in medicine. References to the fruit as a medicine occur in Br. ii. 487, iii. 281; P.S.; Tatar.; Debeaux; S. & T.; J.R.; St.; B.E.R.

These large fragrant fruits with thick skins are collected from trees growing in Central and South China. Amoy is famous for its pumelos.

The outer part of the rind is bitter and aromatic and makes an excellent cordial, also employed by the Chinese in dyspepsia and cough. The seeds or pips have similar properties, and are sometimes given in lumbago.

98. **Citrus japonica,** Thunb. (*C. madurensis*, Lour.; *C. microcarpa*, Bunge). Rutaceae.

金桔: Chin (golden) chieh (small orange): Kam kat (Cant.): local name 'Kim kat'; Pen ts'ao, name. 金橘 Chin chü; Tatar.; S. & T.; P.S.; Br. iii. 281; C.R. Alpha. 150; Hosie; St.; B.E.R.; other names given by Stuart: Chin tou, 'golden bean'; Hsia chü, 'summer orange'; Shan chü, 'wild or hill orange'; Chi k'o ch'eng, 'give quest orange'. It is probably the Tsing pe of Hanbury (Sci. pa. 239) who calls them 'small, immature fruits'. Ph. Soc. Mus.

This is the Cumquot or Kumquat of Tonkin, Annam, and Canton. It is a small round fruit of the size of a cherry, with an agreeable odour and acid pulp. The fruits are used in medicine, and, preserved in syrup, they are highly esteemed for dessert.

99. **Citrus medica,** Risso. var. **sarcodactylis,** Swingle (*C. medica*, var. *digitata*, Lour.). Rutaceae.

佛手: Fu (Buddha) shou (hand): Fat shau (Cant.): local name 'Foot sow'. This is 'Buddha's Hand' or 'Fingered Citron', one of the many varieties of *C. medica*. The fruit is formed by the natural separation of its constituent carpels into a form somewhat resembling a hand with the fingers laid closely together longitudinally. The Jews carried the citron in the left hand at the Feast of Tabernacles as a sacrifice of a sweet smell, and possibly the Chinese name of this denotes some similar practice connected with the worship of Buddha. Two drugs are afforded by this fruit; the dried slices and the flowers.

(100) 佛手片: Fu shou p'ien. The dried slices, Fu shou p'ien, pass through the Customs (Alpha. 325), and are referred to by Smith, Hosie, and Stuart. The slices are thin and shrivelled, a greenish-yellow cuticle fringing the white crumpled, inert, cellular tissue, which forms the greater part of the drug. It is used as a tonic, stomachic, and stimulant.

(101) 佛首花: Fu shou hua. The flowers, are about 13 mm. long, showing the persistent calyx, oblong ovary, style, and capitate stigma. They are in broken fragments, of a dull yellowish colour, with a bitter taste, but devoid of aroma. Sample in Ph. Soc. Mus.

102. **Citrus nobilis,** Lour. (*C. nobilis*. var. *deliciosa*, Swingle). Rutaceae.

柑核: Kan (orange) ho (kernel): local name 'Kam vat'. Kan is the Tangerine or Mandarin Orange, or loose skinned type of orange from Wenchow in the province of Chekiang. It is the fruit peculiar to Central China. Kan ho is

the name of the pips of the mandarin orange passing through the Customs and exported from Ningpo, Hokkien, and Canton. The seeds are bitter. They are first torrefied in order to remove the husks, and are taken as a stimulating remedy.

103. **Citrus sp.** (?) Rutaceae.

胡株柑: Hu (foreign) ch'iu kan (orange): local name 'Woo chew kan'.

From the name of this drug it appears to belong to an orange tree. It is a sliced root of more than an inch in diameter, with prominent medullary rays and a thick, corky bark.

In the above nomenclature and arrangement of the oranges of China, the article on 'Citrus' by W. T. Swingle (*Plantae Wilsonianae* ii. 141) has been followed. The names are somewhat bewildering, but the explanation is due to the fact that the orange is known by four different names: Ch'eng, Chieh, Chü, and Kan, and some of the preparations made from them do not contain any of these four names.

104 and 105. **Clausena Wampi,** Oliver (*C. punctata*, R. & W., *Cookia punctata*, Sonn.). Rutaceae.

黃皮核: Huang (yellow) p'i (bark) ho: 黃皮根: Huang p'i kan: local name 'Wong phee'. Two drugs are supplied from this source; the seeds Huang p'i ho (C.R. Alpha. 519); root, Huang p'i kan (C.R. Alpha. 520). Tonkin name, Hong bi.

The tree is a native of South China and Tonkin, and is cultivated in India and the Indian Archipelago. It is sparingly grown around Luchow in the neighbourhood of the Yangtsze river (Wilson). It yields the delicate 'yellow skinned' fruit, like a small lime, with large seeds and flavour of an orange. The seeds are of the shape of small almonds 10–12 mm. long by 6–8 mm. broad, whitish, with a thin brownish skin near the base.

The woody root is sold in slices and shavings with no perceptible odour or taste.

The fruit of the Wampi is much esteemed and is made into a delicious preserve. In Tonkin the dried fruit with the seeds is given in bronchitis (Crevost and Lemarié).

106. **Clematis chinensis,** Retz., and other species. Ranunculaceae.

靈仙: Ling (spirit) hsien (fairy): Ling sin (Cant.): also local name. Wei ling hsien. C.R. Alpha. 1443; Lour., Hosie, *Szechuan Drugs*; A. Henry, *Chinese Plants*; St.; B.E.R.; Sample from Singapore in Ph. Soc. Mus.

This clematis is distributed in Northern, Southern, and Eastern China, and has been recorded as the origin of the above named drug, but Dr. Henry doubts the identification. Botanical

specimens of the plant supplying this drug should be examined. The root and leaves are exported from Kwangtung, Chekiang, and Fukien. The Malay drug is a knotted rootstock, with long, simple, wiry rootlets, blackish brown in colour, without taste or odour. The action is antimalarial, diuretic, and antirheumatic.

107. **Cnicus japonicus,** Max.: (*Cirsium japonicum*, DC.). Compositae.

大小薊: Ta (large) hsiao (small) kiai (plant): called locally 'Ta sew kai'. Ta ki (big thistle), siao ki (little thistle), Br. iii. 83; Ta chi (*C. spicatus*, Max.); Hsiao chi (*C. japonicus*) B.E.R.; Tatar.; P.S.; J.R.; St.; Henry; Ph. Soc. Mus.

Thistles are frequent in China where the roots are usually official medicines. Soubeiran observed that species of *Cnicus*, (*Cirsium*), *Carduus*, and *Centaurea*, all belonging to the Cynaraceous branch of the Compositae, are known as Ki or Chi. Many are named after animals as Hu chi (tiger thistle), Ma chi (horse thistle), and the small one, Mao (cat) chi. The plants have a bitter taste, and the stem and leaves are nourishing and anti-scorbutic. The root is used as a drug in Annam.

The root from Canton occurs in slices about an inch in diameter, and in smaller tuber-like pieces, whitish and starchy within, with a bitter taste. Preparations of the root are used externally for ulcers and abscesses. Internally it is good for flatulence. Stuart says the use of the tuberous root promotes the plumpness of the body.

108. **Cnidium Monnieri,** Cusson: (*Selinum Monnieri*, Linn.: *S. japonicum*, Miq.). Umbelliferae.

蛇床子 She (serpent) ch'uang (bed) tzü (seed): local name 'Siah chong tee'. She ch'uang, she su (serpent's millet), she mi (serpent's rice), Br. ii. 157; iii. 49; Hanb. Sci. pa. 233; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 1114; A.H.; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This fragrant umbelliferous plant is common all over China, and locally in Europe. The fruits are exported as a drug from Canton and Amoy.

The fruits are of the size of rice grains, ovoid, yellowish and hairy; mericarps with prominent equal ribs, one vitta between each; commissure bivittate. Warm taste with very little odour.

The drug is supposed to act upon the kidneys and to be aphrodisiac, antirheumatic, and vulnerary. In the form of a decoction the fruits are used as a remedy for itch and leprosy.

109. **Cocculus trilobus,** DC.: (*C. Thunbergii*, DC.). Menispermaceae.

防杞: Fang (protector) chi (self): Fong kei, Cantonese and local name. Fang ki, Br. iii. 183; Pen ts'ao; Tatar.; P.S. under

Convolvulus; A.H.; C.R. Alpha. 291; Mu (ligneous) fang ki; T. & M.; St.; B.E.R.; Ph. Soc. Mus.

This plant with a twining stem grows in Central, Eastern, and Southern China and in Japan. The root is exported from Canton and Hankow; the Malayan sample came from Kwangsi. The name Fang ki is applied to other menispermaceous plants. Han fang ki is obtained from *Menispermum dauricum*, DC., of Japan. In Hupeh Dr. Henry has noticed that *C. trilobus* is known by other Chinese names: Ch'ing t'eng is one of them. The root occurs in thin transverse slices with an oval outline, about 1 in. in diameter, yellowish in colour, and exhibiting black medullary rays like spokes of a wheel. The taste is bitter. The drug is given for rheumatism, also for diseases of a graver character as cholera and pulmonary haemorrhage.

110. **Coix lachryma,** Linn. Gramineae.

土薏米: T'u (earth) i (coix) mi (rice): local name 'Yee mai'. I i jen, kiai li, Br. iii. 228; Lour.; Tatar.; P.S.; C.R. Alpha. 547; St.; B.E.R.; Ph. Soc. Mus.

The plants yielding Job's tears are much cultivated in Mid China. There are many varieties of the fruits; sometimes the seeds are enclosed in hard, globular or pear-shaped, lustrous capsules, called beads and pearls, which are made into necklaces and rosaries. The soft shelled fruits contain white edible kernels, resembling 'Pearl Barley' and are often called by that name. These are exported from Ningpo, Chefoo, Shanghai, and Hankow.

The kernels deprived of their shells, are used as a food and medicine throughout China, India, Malaya, and the Philippines. They make an excellent nourishing diet-drink for invalids, and have diuretic and cathartic properties. They are also employed for lung and chest complaints.

(111) 沙薏米: Chao (Roast) i (coix) mi (grain): Ch'aau yee mai (Cant.): local name 'Chow yee mee'.

These grains resemble 'popped rice', but they are actually puffed Job's tears, or the grain expanded by heat.

112. **Commiphora sp.** Burseraceae.

汝藥: Mo yao: Mut yeuk (Cant.): local name 'Mook yeok' P.S.; C.R. Alpha. 879; T. & M.; St.; B.E.R..

The drug received under this name, the Chinese name for myrrh, and as a 'resin from India', is not true myrrh. It consists of a dark-coloured insoluble gum, which swells in water, and has none of the bitterness and fragrance of the true drug. Porter Smith reported that his specimen of Muh yoh was a worthless foreign drug sold as a substitute. Holmes has also observed that Indian bdelliums are occasionally found mixed

with myrrh. Stuart, under Balsamodendron, describes a substance called Chia mu yao, East Indian Bdellium imported into China from India to adulterate the drug. Most writers on Chinese drugs speak of imported myrrh as being a very inferior article. Samples in the north still smell of genuine myrrh.

113. **Coptis anemonifolia**, Sieb. and Zucc. Ranunculaceae.

鳳尾蓮 : Feng (Phoenix) wei (tail) lien: local name 'Foong mee lin'. A Japanese drug called Kikuba oren, sometimes sold under the Chinese name Huang lien. The plant is figured in Journ. As. Soc. Bengal, 1909. p. 76, 'On Coptis', by Mr. I. H. Burkill. Feng wei lien appears as a drug in the Customs (C.R. Alpha. 315).

The rhizome is as thick as a goose-quill and covered with fibrous and wiry rootlets. It is not so knotted or divided as in the other species; it often branches at the crown into two or three heads which terminate in tufts of leaf stalks, crowded together like a brush. The inner part of the root is bright yellow, and the taste is very bitter. It is as highly esteemed as a medicine and used in ways like the root of *Coptis Teeta*.

114 and 115. **Coptis Teeta,** Wall., var. **chinensis,** Franch. (*C. chinensis*, Franch.). Ranunculaceae.

川 蓮 : Ch'uan (Szechwan) lien: local or Cantonese name 'Choon lin'.

正黃蓮 : Chen (genuine) huang (yellow) lien: local or Cantonese name 'Chin van lin'. Huang (yellow) lien, chi lien, Br. iii. 26; Pen ts'ao; Cleyer, 1682; Bergius, 1778; Tatarinov, under *Leontice*; Hobson under *Gentiana*; P.S. under *Justicia*. Henry in '*Chinese Plants*', 137, enumerates Shui lien, mu lien, and chi chao lien as names for Coptis root, the different names refer to different qualities and places of origin. Stuart and Read describe the drug.

As will be seen by the references, Coptis root is a very ancient medicine of the Chinese. It is one of the six great yellow drugs often quoted together—*Rehmannia*, *Phellodendron*, *Scutellaria*, *Astragalus*, *Coptis*, and sometimes rhubarb (see the T'u thu chi ch'eng). There is little doubt that it is the Mamiran of Paulus Ægineta, known to the early Indian traders. Bernier, who visited Kashmir in the train of the Emperor Aurangzebe, mentions Mamiran as a medicine very good for the eyes, which was brought into that country by caravans from Tibet. The botanical origin of the drug was first described by Wallich in 1836. A very full account of the drug and its botanical sources is published in a paper 'On Coptis' by Mr. I. H. Burkill in the Journ. As. Soc. Bengal. N.S.V. (1909), pp. 73–88.

The plant is cultivated in plantations on the outskirts of virgin forests in the mountains of Western China. The ground is roofed by shed-like structures, over which are spread branches and leaves of trees so as to shelter the growing plants from the sun. The Japanese cultivate a different species of Coptis (see *C. anemonifolia*). Huang lien is sent to India by way of Singapore, and the plantations of Western China supply China, India, and Burma with this drug (Henry).

Bretschneider mentions Szechwan, Hupeh, Shensi, and Hunan as the places of production, and Hankow as the exporting centre (C.R. Alpha. 516). E. H. Wilson remarks that in Hupeh plantations of Huang lien are a profitable investment. The drug sells at Chengtu at 4 taels 5 m. per catty (Hosie).

The kind from Szechwan which is most esteemed is a yellowish rhizome as thick as a crow-quill or larger, having a few spinous projections where rootlets have been broken off; the whole rhizome is pointed or knotted, but at the upper end the points are much more marked and knuckle-shaped, and a stem-clasping petiole remains attached to each. The interior is hard, the cortical portion dark, the central part is pierced by a pith of deeper shade. The taste is intensely bitter and aromatic.

The roots contain the alkaloid berberine, and are used as a collyrium. The drug is an all round tonic and stomachic medicine, and is regarded as a panacea for many ills. It was formerly official in the United States Pharmacopoeia.

**116. Corchorus capsularis,** Linn. Tiliaceae.

**充蔚子**: Ch'ung wei tzu: Ch'ung wai tsz (Cant.): local name 'Choong wai chee'.

This is the name for the seeds of *Leonurus sibiricus*, L. The cultivation of the jute (*Corchorus spp.*) for its textile fibre is one of the staple industries in N.E. India. The plants are also cultivated in South China and other parts of tropical Asia. Jute has been identified by the Japanese as Huang ma, and it is mentioned by Bretschneider (ii. 388) as one of the hemp plants of the Chinese. Dr. Stuart remarks that it may be regarded as the Ta ma (great hemp) of the Pen ts'ao, but he does not speak of any part of the plant being used in medicine. But the term Ta ma is often used for hemp (Cannabis) and sometimes for the castor oil plant. Two samples of the seeds come from Malaya as a recognized drug; they are small, greyish, angular, and bitter. No directions are given as to their properties or method of administration. Kobert, in 1906, separated a toxic glucoside from several species of corchorus, but not from *C. capsularis*. It is probable that the seeds have been introduced into Chinese medicine as a substitute for the seeds of *Leonurus* (C.R. Alpha. 283) which are considered to be constructive and aphrodisiac.

117. **Cordyceps sinensis**, Berk. Fungi-Hypocreaceae.

夏草冬虫 : Tung (winter) ch'ung (insect) hsia (summer) ts'ao (herb): local name 'Toong choon choo'. This name is also given by Reaumer, Du Halde, Tatarinov, Thunberg, Reeves, P. Smith, Westwood, Stuart, and Read. Specimens in Ph. Soc. Mus.

This curious combination of animal and vegetable, called 'Caterpillar Fungus', was mentioned by Reaumer in 1726, and by Du Halde in his *History of China* in 1736. After many surmises as to its nature, Berkeley gave it a name and described and figured the fungus in Hooker's *Journal of Botany*, 1843 (pp. 207–8). See also *Vegetable Wasps and Plant Worms*, by M. C. Cooke, 1892.

Each individual is about three inches long. Half is a caterpillar of cylindrical form, of a light brown colour. Head, neck, and segments of the body and legs are distinctly recognizable. Projecting from the back part of the neck is a slender club-shaped body, black, and measuring 1½ to 2 in. long; this is the fungus. They are sold in bundles bound by a red silk thread; each bundle contains a dozen parasites and weighs about a quarter of an ounce.

The fungus is abundant in the south of Tibet, Szechwan, Hupeh, and Honan. Wilson in his travels observed that the Chung ts'ao fungus occurs at 12,000–15,000 ft. altitude. Nearly all that was used about forty years ago came from Kiating fou in Szechwan, Hosie, in a later report, states that it is still found in considerable quantity in the Litang District.

The drug is classified with a number of rare medicines called 'Lang tan ho', and is held in high esteem throughout the Chinese Empire. It is one of the most costly drugs in the country; it is sold for its own weight, and sometimes four times its weight, in silver. Hosie says the wholesale price at Litang is Ts 5 to 6 a catty. The annual export to Tachienlu is about 2,400 catties valued at 4,000 taels (1905).

The drug is regarded as extremely strengthening, and rivals ginseng in this respect. In Annam and Malaya it is given for its tonic and aphrodisiac properties. It is also said to be efficacious in jaundice, phthisis, and a number of other diseases. This fungus is said to enjoy in China the same reputation that truffles do in Europe.

118. **Coriandrum sativum**, Linn. Umbelliferae.

胡荽 : Hu sui, St.; B.E.R.; Yüan sui, C.R. Alpha. 1565; Ketumbah (Malay).

Coriander fruits. These well-known fruits are used as a spice and flavouring agent in medicine throughout the East. They have carminative and corrective properties.

119. **Cornus officinalis,** Sieb. and Zucc. Cornaceae.

山茱黃: Shan (mountain) chu yü: local name 'San yee yook'. Br. ii. 498; iii. 339; Tatar.; P.S.; C.R. Alpha. 1094; Henry; St.; B.E.R.

The Cornelian Cherry is a large tree growing in the mountainous parts of China and in Japan. It has prickles, white flowers and red edible fruits like the jujube (*Zizyphus*). In Chekiang the tree is cultivated for its fruit, from which a medicinal paste is made. The pulp of the fruit, which is a drupe, is sour, the stone is oblong, whitish, 10–13 mm. long and 4–5 mm. in diameter. The hard thick shell contains round oil cavities which distinguish it from the nut of the jujube fruit, which is solid. Shu suan tsao (sour jujube from Szechwan) is one of the names of the drug. The pulp of the fruit is exported from Ningpo. Various medical qualities are ascribed to the drug, among which are diuretic, astringent, tonic, anthelmintic, and antilithic.

120. **Corydalis ambigua,** Cham. and Schlecht. Papaveraceae.

元湖: Yüan hu: local name 'Goon woo'. Official name 延胡索 Yen hu so. Hanb. Sci. pa. 256; Pen ts'ao; P.S.; T. & M.; St.; B.E.R.; Yüan hu p'ien, sliced tubers, C.R. Alpha. 1529; Ph. Soc. Mus.

The plant occurs in Siberia, Amur, and Kiangsu, where the roots are collected for medicine.

The drug consists of fine slices of a tuber of a yellowish or brownish-yellow colour. The taste is bitter and beanlike. The tubers themselves are small, hard, brown, spherical, or somewhat flattened in form, half an inch in diameter. Externally they are covered with a thin, wrinkled cuticle; when broken, they exhibit a bright yellow, semi-transparent, waxy appearance. They contain the alkaloids, corydaline, protopine, dehydrocorydaline, berberine, and other alkaloids (see Chou T.Q. *Chinese J. Physiology*, 1928–9, and Japanese work in *Journ. Pharm. Soc. of Japan*). Tonic, diuretic, and alterative properties are attributed to this drug.

121. **Crataegus pinnatifida,** Bunge. Rosaceae.

山楂: Shan (mountain) cha (hawthorn): local name 'San chai'. Shan li hung, Br. ii. 244; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 1082; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This small, thorny tree with red fruits occurs in Manchuria, Northern, Central, and Western China, The small fruits or haws attain the dimensions of crab apples and are frequently, but erroneously, so called. In commerce the fruits are sold whole in a dried state, or in circular slices showing the seeds, pulp, and

rind. They are valued at T. 1·5 a picul. The taste is extremely acid and astringent. Dried and powdered, the drug is administered as a peptic, stomachic, and antiscorbutic. In Peking the fruits are collected in the mountains and made into an excellent sweetmeat.

122. **Croton Tiglium,** Lam. Euphorbiaceae.

巴豆子 : Pa (Szechwan) tou (bean) tzü (seed): local name 'Pai tow chee'. Pa tou, Br. iii. 331; Hanb. Sci. pa. 230; Pen ts'ao; Cleyer; P.S.; T. & M.; St.; B.E.R.; C.R. Alpha. 79, 933; Lour.; Bidendjireh khatai, Persian name, meaning, 'Ricinus or castor oil seed from China'.

As the Chinese name indicates, Croton seeds are gathered principally in Szechwan. They are exported from Hankow and Canton. The tree is probably indigenous to China; it grows in Cochin China, and is cultivated in many parts of the East from Mauritius to the Indian Archipelago.

On account of their drastic purgative properties the seeds and oil are regarded by the Chinese as extremely poisonous. This is one of the five poisons having violent purgative properties; the others are Lang tu (wolfsbane): Veratrum root; Aconite root; and Cantharides. Chiang (strong) tzü (seed) is the name given by druggists for Pa tou, as, being poisonous, they are forbidden to be sold under their official name (Dr. Henry). The bark is used as a tonic in Annam.

123. **Cucumis Melo,** Linn. Cucurbitaceae.

田瓜丁 : T'ien (field) kua (melon) ti (stalk): local name 'T'ien kwa teo'. T'ien or kan kua, Br. ii. 382; iii. 292; P.S.; Kwa ti, peduncles, T. & M.; C.R. Alpha. 1293; Hosie; St.; B.E.R.; Ph. Soc. Mus.; Mukuwauri (Japan). The characters for t'ien (field) and t'ien (sweet) are both employed for this drug.

Bretschneider explains that by 'ti' the footstalk of a flower or fruit is meant, and that the drug Kua ti or stalks of certain gourds and melons is noticed in the Pen ts'ao and other medical works. This peculiar drug is collected in Honan, and is imported into Chefoo and Fuchow from Canton. It is also used in Japan. The Malayan sample came from Tientsin.

The peduncles are a little more than an inch long, of a light brown colour, contorted and tapering to a fine point, and very bitter to the taste.

Stuart says the drug is vaunted as a remedy out of all proportion to its importance. General anasarca and indigestion are said to yield to its use. Other doctors refer to its cooling and demulcent properties.

124. **Cunninghamia sinensis,** R.Br. Coniferae.

杉葉 : Shan yeh: local name 'San yin'. Br. ii. 228; iii. 302; P.S.; Henry; B.E.R.; St.; Ph. Soc. Mus.

Shan or Sha is the name of large conifers and is usually applied to the above tree. Read refers the name to the Japanese Cedar (*Cryptomeria japonica*, D. Don.). *C. sinensis* is a common and valuable tree of Middle, Southern, and Western China and of Japan. It is a handsome tree which yields an excellent timber. The wood, bark, seeds, and leaves are medicinal. The specimen from the drug shop in Malaya consists of thick shavings of the white, woody stem. The drug is employed as a stimulant, tonic, and sedative.

125. **Curcuma longa,** Linn. Zingiberaceae.

黃薑 : Huang (yellow) chiang (ginger): Wong keung (Cant.): local name 'Wong keong'. Huang chang C.R. Alpha. 75, 511; Br. ii. 408; Pen ts'ao; Tatar.; Debeaux; P.S.; St.; B.E.R.

Turmeric is indigenous to Southern Asia and is extensively cultivated in Kwangtung and Szechwan. Yü lin in Kwangsi is said to derive its name from the plant.

The drug from Malaya is a subcylindrical rhizome, attenuated towards the ends with one or more knobs or shoots growing from the sides. It has a hard and firm consistence, exhibiting when broken a dull waxy or resinous section of an orange colour with a peculiar aromatic odour and taste. Sometimes in the South a sliced form of the tuber is sold. On account of its yellow colour the Chinese regard turmeric as an auspicious article in religious observances, and it is used in preparing the sacrificial wine called 'Chang'. For this reason it is used more as a dye than as a condiment. It is, however, kept in all drug shops, and is used externally for cutaneous affections and internally against colic, amenorrhoea, and congestions.

126. **Curcuma longa,** Linn., var. **macrophylla,** Miq. Zingiberaceae.

乙金 : Yüe (fragrant plant) chin (gold): Yuet kam (Cant.): local name 'Wat kam'. Yü kin, Br. ii. 408; Pen ts'ao; Cleyer; Tatar.; Hanb. Sci. pa. 254, Fig. 11; P.S.; C.R. Alpha. 1548; Mat. 106; St.; B.E.R.; Ph. Soc. Mus., drug from Singapore, labelled *C. aurea*.

The plant producing this turmeric is a native of Southern and South-Western China, and is extensively cultivated.

The tubers are ovate, about one inch long, covered with a brownish-grey cuticle, breaking with a shining, horny fracture, of an orange yellow colour, with an inner and outer portion. The aroma and taste are similar to those of turmeric. The drug from Singapore is in thin circular transverse slices about 2 cm.

in diameter, of a pale yellow colour, showing a brown ring halfway between the centre and circumference. It is sold at from T. 6 to 8 a picul. These tubers are used as a dye, especially for cottons, and give the auspicious yellow colour to the garments of priests. They are also employed as a condiment, and in medicine they are said to purify the blood and assist in affections of the heart and lungs.

127. **Cuscuta sp.** Convolvulaceae.

菟花 : T'u (hare) hua (flower): called locally 'Tow fah'. T'u sz' tsz' (hare's silk seeds), Br. iii. 163; Hanb. Sci. pa. 240; Pen ts'ao; Cleyer; Tatar.; P.S.; J.R.; C.R. Alpha. 1382; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The dodders are found everywhere in China, and all parts of the plants are used in medicine. Hanbury says the plant was formerly official in Europe as a purgative under the name of *Herba Cuscutae Majoris*. In China the small round seeds like black mustard, are chiefly sold in the shops and they do not differ very markedly from those of *C. europaea*. The Chinese species are *C. chinensis*, Lam., and *C. japonica*, Chois. The Malayan drug consists of the dried flowers with the filamentous stems. The young shoots are made into lotions for sore heads and inflamed eyes. The seeds are said to be tonic, diaphoretic and demulcent.

128. **Cycas sp.** (?) Cycadaceae.

流行 : Liu hsing: local name 'Low hung'.

This drug, said to come from Szechwan, consists apparently of dried sections of a fruit of a greyish-brown colour not unlike the carpophylls of a *Cycas*. The Chinese name, however, does not represent a Cycas. It is suggested that the name is a contraction of Wang pu liu hsing, an article in the Customs (Alpha. 1440) identified as *Saponaria Vaccaria*, Linn., but this affords no clue to the origin of the above drug.

129. **Cyclophorus porosus,** Presl: (*Polypodium fissum*, Baker). Filices: Polypodiaceae.

石韋 Shih (rock) wei (thong): local name 'Siek wai'. Shih p'i (rock leather) Br. iii. 203; Hanb. Sci. pa. 266, under *Nipholobus lingua*, Spr. (*P. lingua*, Sw.), an allied species to the above; Pen ts'ao; Tatar.; C.R. Alpha. 1161; P.S.; St.; B.E.R.; Ph. Soc. Mus.

This fern grows in Shensi, Shansi, Hupeh, and other provinces, and the dried fronds of this and perhaps other species of fern are exported from Ningpo and Canton, often mixed with moss and reeds. It is common on stone walls and by the sides of wells. The fronds are tongue-shaped, about one foot long by one inch broad, leathery, and hairy.

The fronds, either sterile or fertile, are pectoral, diuretic, and astringent. They are useful in urinary calculus and rheumatism. In Malaya they are considered a remedy for gonorrhoea.

130. **Cynanchum japonicum,** Hemsl. var. **purpurascens,** Max.: (*Vincetoxicum purpurascens*, M. & D.).
Asclepiadaceae.

白前 : Pai (white) ch'ien: Pak ts'in (Cant.): local name 'Paik cheen'. Pai ts'ien; Sou yao (cough medicine) Br. iii. 45; C.R. Alpha. 939; St.; B.E.R.; J.R. under *Asclepias vincetoxicum*. Sample from Singapore in Ph. Soc. Mus.

The plant grows in Central China, to a height of a foot or more. According to Bretschneider the root is exported from Canton. The Malayan sample is labelled 'From Szechwan'.

The drug consists of small knotted rootstocks from which arise thin, brown, wiry, brittle rootlets. The rootlets have a light brown exterior, the fracture is starchy and white, with a central brown cord showing porous vessels. The drug has no marked odour or taste.

The root has a reputation for assisting bronchial and lung troubles; it is used locally, in the Malay States, for liver complaints.

131. **Cyperus rotundus,** Linn.: (*C. odoratus*, Osbeck).
Cyperaceae.

香付 : Hsiang (fragrant) fu: local name 'Heong foo'. So (knot) ts'ao, Br. iii. 59; C.R. Alpha. 412; Pen ts'ao; Lour.; Tatar.; Debeaux; P.S.; Henry; Hosie; J.R.; St.; B.E.R.

This sedge grows very plentifully in moist or boggy ground throughout China. The small, dark, hairy tubercles are ovate, oblong, pointed at both ends, about an inch or less in length, the skin is purplish-black and the flesh is whitish, turning light brown, hard, and horny. The odour is similar to that of turmeric. They are exported from Canton and Ningpo.

The small tubers are used in medicine and as a perfume. They are said to act on the lungs and liver. Their general action is tonic, stimulating, and stomachic.

This sedge probably supplies the Arabian and Indian drug named 'Suad'. This is a sweet smelling rhizome, round, black, and hard like a knot, which is an ingredient in medicines and perfumes.

132. **Cyperus sp.** Cyperaceae.

三菱 : San (three, triangular) ling (water plant): Cantonese and local name 'San ling'. Br. ii. 97; iii. 59; Ching san ling, C.R. Alpha. 1062; J.R.; S. & T.; P.S.; St.; B.E.R. San ling is a general name for several cyperaceous plants (Bret.); Ph. Soc. Mus. under *Alisma flava*.

The identification of this drug has not been definitely settled. Tatarinov concluded that it was derived from several species of *Cyperus* and *Scirpus*. Porter Smith and Stuart refer it to *C. rotundus*, the Customs Report to *C. Iria*, and Read to *Scirpus maritimus*. Bretschneider states that the plant yielding the drug is met with in Honan, Hupeh, Szechwan, and Shensi, and that the roots are exported from Hankow, Ching kiang and Ningpo. The Malayan drug came from China.

The tuberous roots are top-shaped, pointed at one end, and have apparently been cut and trimmed to separate the running roots. The Chinese name indicates the triangular shape which the tubers sometimes exhibit. Internally they are hard, yellowish, and woody, with a slight aroma. The Malayan sample is in round transverse slices about one inch in diameter: the exterior is black and the inside pinkish-brown in colour and horny in consistence. Under the microscope starchy parenchyma predominates without distinct starch granules. In China and Annam the drug is in great request as a tonic, stimulant, and excitant.

133. **Dalbergia sp.** Leguminosae.

降香 : Chiang (to descend) hsiang (fragrant): Kong heung (Cant.): local name 'Kong heong'. Chiang chen hsiang, B.E.R.; P.S. Chinese imports; C.R. Alpha. 48. Kayu laka (Java and Lampongs); Laka wood of Sumatra, Java, Borneo, and Celebes.

The origin of the wood is referred to *D. parviflora*, Roxb., by Brandis (*Indian Trees*, p. 239). According to F. W. van Eeden (*Houtsoorten van Nederlandsch Oost-Indie*, Haarlem, 1886) the source of Kayu laka is given as *D. Zollingeriana*, Miq., but in the edition of 1906 it is called *D. sp.*, as the former species was found to be a climber and supposed not to be a suitable source of a commercial wood.

'The roots (of this plant) found throughout Malaya, are collected in Pahang for export, because they can be burned to produce incense used in Chinese ceremonies. It is said a great deal of this product is used in making joss sticks. It can also be used to furnish a dye stuff. It is collected throughout the Netherlands Indies, Borneo, and the Philippines. The amount exported from Singapore in 1920 was 2,857 piculs valued at $22,486' (Foxworthy, 1922). Earlier writers have wrongly ascribed the source of this wood to *Tanarius major*.

134. **Daphne Genkwa,** Sieb. & Zucc. Thymelaeaceae.

元花 : Yüan hua: local name 'Yoon fah'. Pai hua (poisonous flower), Tu yü (fish poison); T'ou t'ung hua (headache flower) Br. ii. 465; iii. 156; Tatar.; P.S. under *Passerina*;

T. & M.; Men t'ou hua (plant that stupefies the head) Henry; C.R. Alpha. 1561; St.; B.E.R.; Ph. Soc. Mus.

The plant is a native of Central China. The flowers which are officinal are exported from Chin kiang. Their poisonous nature has been known from very early times; that the flowers are a fish poison is recorded in a Chinese dictionary of the first century.

The small corollas with hairy tubes and reddish limbs have a bitter and acrid taste. They are largely employed in a dry state or in alcoholic tincture as a cordial, tonic, and febrifuge, also in cough mixtures.

The bark is used as a vesicatory. People have been known to rub the skin with the drug to produce inflammatory swellings in order to simulate wounds.

135. **Daphne odora,** Thunb. Thymelaeaceae.

千里香: Ch'ien (1,000) li (mile) hsiang (fragrant): Ts'in li heung (Cant.): locally called 'Chin lee heong'. Henry MS.; Matsumura, Chinese Plants, 112; Jui hsiang, B.E.R.; Shui (Jui) hsiang, St.

This shrub called 'A thousand miles of fragrance', because of the powerful odour of its flowers, grows throughout the southern provinces of China.

The stems and roots, about the thickness of a quill, are light brown in colour and bitterish in taste. They are usually cut into short lengths.

The root and leaves in the form of decoction are used for sore throats, and as a wash for small-pox pustules. The root is regarded as poisonous and should be used with caution.

136. **Datura Metel,** Linn.: (D. *alba*, Nees). Solanaceae.

鬧羊花: Nao (stupefy) yang (sheep) hua (flowers): local name 'Now yang fah'.

Yang (sheep) chi chu (to reel) Br. iii. 155; Hoffman and Schultes; Tatarinov and Horaninow under *Hyoscyamus*; P.S.; Hanb. Sci. pa. 266 under *Rhododendron*; C.R. Alpha. 894; Man t'o lo hua, St.; B.E.R.; Parker, 'Canton Plants'.

The white flowered Thorn Apple is a common plant in China and India. The shrub is frequent on the mountain slopes of mid-China where it reaches a height of 3 or 4 ft. The poisonous properties of the plant, especially its stupefying action on sheep and cattle, is indicated in its vernacular names. These names, however, are given to other plants, as Hanbury refers the drug to a *Rhododendron*, and Dr. Henry confirms the identification and speaks of the reputed danger to cattle that browse on the flowers of Rhododendrons and Azaleas.

The long white corollas of the Thorn Apple, like other parts

of the plant have dangerous narcotic properties. Their delirient action in producing laughter and dancing has been noticed. Digested in wine they form a tincture acting as an anaesthetic. A lotion is made from them which reduces eruptions on the face and swellings of the feet.

**Dendrobium nobile,** Lindl.: and other species.
Orchidaceae.

137. 金釵: Chin (gold) ch'ai (hairpin): local name 'Kim sak fook'. C.R. Alpha. 145.

138. 正金釵: Cheng (genuine) chin ch'ai : local name 'Chen kin cha'.

139. 小鬟釵: Hsiao (small) huan (bent) ch'ai (hairpin): Siu waan ch'a (Cant.): local name 'Siew van cha'. Hanb. Sci. pa., but not *Triticum repens*, 262; C.R. Alpha. 508.

140. 石斛: Shih (rock) hu (plant): local name 'Chak hook'. C.R. Alpha. 1148.

141. 馬鞭草: Ma (horse) pien (whip) ts'ao (plant): local or Cantonese name 'Mar phin choo'. A name for *Verbena officinalis*.

The five drugs sent under these various names are portions of stems of species of *Dendrobium*. The number of specimens perhaps represents the popularity of this type of medicine. The above are only a few of the vernacular names given to these plants, and the names are frequently interchanged. The specimens are straight-jointed, solid, cylindrical stems of an epiphyte varying in thickness, mostly swollen between the joints, yellow in colour, often deeply striated and furrowed, and sometimes showing traces of rootlets proceeding from the nodes. The thicker stems are usually cut up into lengths of one to two inches. They are tasteless and odourless. The first named sample agrees in every particular with botanical specimens of *D. nobile*, thus confirming Dr. Henry's identification of the drug from Szechwan. Bretschneider refers Shih hu to *D. moniliforme*, Swartz and *D. ceraia*, Lindl. *D. reptans*, Franch., affords one of the drugs from Japan. These orchids grow among rocks in the central and southern provinces, and under the name of Huang ts'ao or 'Yellow plant', they are actually cultivated in West Hupeh and Szechwan as a medicine (Br. iii. 202). The drugs under various names are exported in a fresh or dried state from Hankow and Canton. Hosie gives the market value of Shih hu at T. 40 a picul, and that of Chin ch'ai and other inferior qualities at T. 10 to 25 a picul. The drug is credited with tonic, stomachic, pectoral, and antiphlogistic properties.

142. **Dianthus superbus,** Linn. Caryophyllaceae.

雁麥: Chü (great) mai (wheat): locally called 'Kooi mak'. Tatar.; C.R. Alpha. 237; Br. iii. 112; P.S. under *D. Fischeri*, Spreng. (now *D. chinensis*, L.); St.; B.E.R. The vernacular name is given because of the resemblance of the seeds to grains of wheat. Sample in Ph. Soc. Mus.

This is a common flowering herb in China, a foot or more in height, bearing purplish red flowers.

The dried flowering plants, tied up in yellowish bundles, are exported from Hankow and Yunnan. The stems are round, yellowish-brown, with hairy leaves clasping at the base.

The drug is employed as a diuretic and anthelmintic and for clearing the eyesight. In Malaya it is used as a remedy for gonorrhoea.

143. **Dichroa febrifuga,** Lour. Saxifragaceae.

常山: Ch'ang (constant) shan (mountain): local name 'Seong san'. Classified under *Orixa japonica*, Th., by Stuart and Read; Br. iii. 141; Debeaux; Hosie; C.R.; J.R.; Cay theong son, Cham chan (Cochin China).

This shrub occurs in the Himalayas, Java, Annam, and China, especially in the provinces of Szechwan, Shensi, Hupeh, Chekiang, in hill forests 4,000 to 8,000 ft. high. With regard to the name, Bretschneider says Ch'ang shan is properly the name of a mountain which is also called Hengshan, ch'ang and h'eng having the same meaning (perpetual). It was also the name of a prefecture in Chilhi where the drug is produced. It is exported from Hankow, Canton, and Ningpo.

The drug consists of the stem and leaves. The stem is in reddish-brown, quill-shaped pieces with a distinct pith. The root contains a crystalline glucoside, but no tannin. (*Pharm. Ind.* i. 588).

The febrifugal properties of this drug were first noticed by Loureiro, and it is still considered an excellent remedy for all kinds of fevers.

144. **Dicliptera chinensis,** Nees. Acanthaceae.

九干菜: Chiu (nine) kan (stem) ts'ai (plant): Kau kon ts'oi (Cant.): local name 'Kow kon choi'. Kou kan ts'ai, C.R. Alpha. 610.

A plant of Hunan, Hong-Kong, and Formosa. The flowering tops constitute the drug. They are recognized by the peculiar persistent bracts, ovate, and connate at the base.

145. **Dictamnus albus,** Linn.: (*D. fraxinella*, Pers.). Rutaceae.

白跌皮: Pai hsien p'i; Pai (white) hsien (strong smell) p'i (bark): Pak sin p'i (Cant.): local name 'Pak sin phee'. Pai

yang (goat) p'i, Br. iii. 35; P.S.; S. & T.; T. & M.; C.R. Alpha. 947; St.; B.E.R.; Ph. Soc. Mus. sample from Singapore.

This is a common plant in Mid China, and is distributed throughout Manchuria, Korea, and Japan. As its name indicates, the plant has a strong smell resembling the odour of goats. The root bark is officinal and is exported from Newchwang, Wu hu, Hankow, and Szechwan.

The root is shaped like a small turnip. The whitish root is sold in oblique slices, showing the wood and soft corky bark. The root-bark also occurs in curved fragments, with a peculiar pungent flavour and bitterish taste. The drug is used in skin diseases. Internally it is given for its tonic, sedative, and antipyretic qualities.

146. **Diospyros Kaki,** Linn. Ebenaceae.

京柿蒂: Ching Shih (Persimmon) ti (peduncles): local name 'Ching see tee'. (Ching, a district comprising Hupeh and the greater part of Hunan.) Br. ii. 491; iii. 279; Tatar.; P.S.; C.R. Alpha. 1159; St.; B.E.R.; Ph. Soc. Mus.

The fruit of this tree, which is common in China and Japan, is the Persimmon or Chinese Fig, a large thick skinned juicy fruit of an orange or yellowish colour and astringent taste. It is called Shih among the fruits eaten by the Chinese in ancient times. The dried fruits (Shih ping) are sold alone, and cakes (Shih shuang) are made of them in Amoy.

The drug sold in Malaya belonging to this plant is made up of the calyces and parts of the peduncles of the fruit. This is a medicine exported from Canton and Amoy. The brown disk-shaped and lobed calyces are about $\frac{3}{4}$ in. in diameter, with portions of the peduncles attached. They are slightly astringent. Stuart remarks that the drug is made into a decoction for obstinate coughs and dyspnoea.

147 and 148. **Diospyros Lotus,** Linn. Ebenaceae.

沙棗仁: Ch'ao (roasted) tsao (jujube) jen (kernel): Ch'aau tso yan (Cant.): local name 'Choo yin'.

沙柿仁: Ch'ao shih jen: Ch'aau shi yan (Cant.): local name 'Chow yin'. J.R.; St.; B.E.R.; Wilson; Hei tsao (black jujube) the colloquial name of the tree in Peking, and in the Customs (Alpha. 368); Suan tsao (sour date) (C.R. Alpha. 1205). Tatarinov gives the name Meh tsau rh to this fruit which he says is the *Zizyphus Lotus* or true lotus of the Lotophagi. That it is of recent introduction in China is supported by the absence of any reference of this black date or black jujube to any kind of Diospyros in Chinese botanical works, and by the divergent names given to the fruit.

The seeds are imported from Chekiang. They are small,

reddish-brown, flattened or disk-shaped, about 5 mm. in diameter. The testa is frequently cracked and loose through the action of heat.

The fruit is antifebrile and is used to promote the secretions. The seeds are regarded as sedative.

149. **Dolichos Lablab,** Linn. Leguminosae.

白 豆: Pai (white) tou (bean): local name 'Pai tou'. Pien tou, Br. iii. 233; P.S.; C.R. Alpha. 957; Henry; Hosie; St.; B.E.R.

This bean is in general cultivation. It is called, according to Hosie, Ssu chi tou (four seasons bean) because it can be grown throughout the whole year.

The seeds are black, brown, white, and variegated. The black seeded kind is called ts'io tou (magpie bean), for the seed has a white rib or hilum like that seen on the wing of a magpie. The white seeds are preferred for medicinal use and are exported from Shanghai. The sample from Malaya is light brown with a white hilum, oval in shape, 10 by 13 mm. The ripe seeds are eaten boiled; in medicine they are said to be tonic and to relieve flatulence.

150. **Drosera Burmanni,** Vahl. Droseraceae.

錦 地 蘿: Chin (brocade) ti (earth) lo: local name 'Kam tee loh'.

Sundews are small herbaceous plants growing in grass-land, and interesting from the fact that the leaves have glandular hairs which close upon flies and insects that rest upon them. The above species is a tiny herb with tufted leaves and peduncles often red and flowers pink; it grows in sandy soil. The drug from Szechwan is the dried plant with the glandular leaves of a reddish-brown colour. This is an article of commerce (C.R. Alpha. 160), but not much is known about its medicinal use. The leaves are said to have blistering properties, and this was confirmed by the writer in the case of fresh leaves of *D. peltata* from the Nilgiri Hills in India. The leaves of some species of sundew contain a crystalline yellow colouring matter; this has been examined by Prof. E. H. Rennie, Australia.

151. **Dryopteris sophoroides,** O. Kuntze: (*Nephrodium sophoroides*, Desv.). Filices-Polypodiaceae.

鳳 尾 草: Feng (Phoenix) wei (tail) ts'ao (plant): local name 'Foong mee chow'.

Feng wei ts'ao is the name of a fern that passes through the Chinese Customs (Alpha. 317), and is referred to in the Pen ts'ao. It is probable that more than one species of fern is included under this name.

The fern grows wild near Hong-Kong, in Formosa, and as far as Japan. The fronds are slender, substramineous, and pubescent, one to two feet high. The green fronds are used in medicine.

Stuart refers the Phoenix tail fern to the Male fern, *Nephrodium Filix-mas*, and says it is used as an anthelmintic and corrective.

152. **Eclipta alba,** Hassk. Compositae.

旱蓮草: Han (dry) lien ts'ao (plant): local name 'Hon lin choi'. C.R. Alpha. 359. This is the name of the Hupeh product, P'eng chi ts'ao is the name of the Canton product, Dr. Henry. Lien k'iao (Br. iii. 120), Li ch'ang (B.E.R., St.); the Japanese name. Drug sellers in Singapore supply the plant under the additional names of Eng wai and Muah chi chao; Ph. Soc. Mus.

A common weed in the rainy season. The whole plant is largely used in the East. The plant when crushed exudes a black sticky juice, on account of which it is called Mo ts'ai 'ink vegetable'. The Chinese drug is exported from Canton; the Malayan sample came from Yunnan.

The plant is considered an astringent, and is used for checking haemorrhages and fluxes and strengthening the gums. Ridley remarks that the plant is rubbed on the gums for toothache, acting as a counterirritant. The juice of the pounded herb is universally used for dyeing the hair. It is also employed in tattooing to communicate a blue colour to the punctures.

153. **Edgeworthia Gardneri,** Meissn. Thymelaeaceae.

羔銀: Fu or P'u (wasting sickness) yin (silver): Fu ngan (Cant.): local name 'Phoo yin liow'. Pun nion, name used by Chinese in Perak, Ph. Soc. Mus.

*E. Gardneri* is a shrub about ten feet high, bearing yellow fragrant flowers. It occurs in Western and Central China and is distributed in the Central and Eastern Himalayas, and Japan. It includes the species, *E. papyrifera*, S. & Z., the bark of which forms a paper material.

The Singapore sample consists of slices of the rootstock and pieces of the stem. The stem bark is reddish-brown and tough; its outward appearance with that of the silvery white liber correspond with these characters on botanical specimens of the authentic plant. The Perak sample consists of similar slices of the root with portions of the stem. The drug is said to be a remedy for buboes. The plants of this order are regarded as poisonous, and their preparations are usually applied externally.

154. **Elephantopus scaber,** Linn. Compositae.

地胆頭: Ti (country) tan (gall) t'ou (head): local name 'Tee tam tou'. Ti tan (ts'ao) Parker, 'Canton Plants'; Bret-

schneider, Early European Researches, 156. Go jihva (Ox tongue) of Sanskrit writers. 'Prickly leaved Elephants foot' (Ainslie).

This small plant with hairy, radical leaves spread flat upon the ground is a common weed in most tropical countries.

The drug consists of the dried leaves and portions of the fibrous root. This is not recorded as a usual Chinese medicine, but in India it is given for pains in the stomach and is considered a good vulnerary (*Pharm. Ind.* ii. 243.).

155. **Eleutherococcus Henryi,** Oliver: (*Aralia palmata*, Lour.). Araliaceae.

香加皮: Hsiang chia p'i (bark): local name 'Heong kah phee'. Wu kia p'i, Br. iii. 344; Pen ts'ao; Lour.; Tatar.; P.S.; C.R. Alpha. 1449; Henry in *Hook. Ic. Pl.*, XVIII (1889, t. 1711); St.; Hosie; Ph. Soc. and Kew Museums.

The tree is found in Shensi and Hupeh and in the valley of the Yangtsze. It varies in habit and becomes a large tree in the north. The name Wu chia refers to the five parted or palmate leaves. Loureiro and Tatarinov describe the drug under *Aralia palmata*. Dr. Henry considers there are two drugs included under the Chinese name; the red kind from Patung, and the white kind from *E. leucorrhizus*, Oliv., exported from Szechwan. Hosie observes that *E. senticosus*, Max., yields the drug from Manchuria and North China; this is exported from Tientsin and Newchwang, and is valued at H.T. 3·5 and upwards a picul. The root-bark occurs in quilled pieces, with a soft, light, yellowish-brown outer layer, and a tough, dark-brown fibrous inner portion. It is bitter and astringent. The Malayan sample came from Canton, and is used locally for 'wind complaints'. Loureiro speaks of it as good for scabies and hydropsie. In China it is used in the form of a tincture for rheumatism and tertiary syphilitic diseases.

156. **Elsholtzia cristata,** Willd. Labiatae.

香薷: Hsiang (fragrant) ju: Heung ue (Cant.): local name 'Heong yee', Br. iii. 63; Pen ts'ao; Tatar.; Debeaùx; P.S.; J.R.; C.R. Alpha. 413a; Hosie; St.; B.E.R.

The plant is found in Tibet, Japan, and southwards to India. It is wild and cultivated in the Central Provinces of China and is common on the Peking mountains. The drug, composed of the dried leaves, stems, and parts of the root, is exported from Hankow and Canton. The Singapore sample came from Canton.

In China and Cochin China the plant is not only consumed as a medicine, but also as a pot herb and condiment. In Annam the flowering tops are employed as a diuretic. In Japan the

leaves are used for tea. In a general way, like other labiates, the drug is regarded by the Chinese as carminative, stomachic, and astringent.

157. **Enteromorpha intestinalis,** Link. Algae-Ulvaceae.

昆布: K'un pu: local name 'Kwan poo'. Br. ii. 201; iii. 201; C.R. Alpha. 677; K'un pu is *Laminaria japonica*, Ar.; (B.E.R.), *L. saccharina* (Bretschneider and Stuart); *Ulva sp.* in Ph. Soc. Mus. The name evidently is applied to various specimens of seaweed. Bretschneider says that K'un pu is produced in the Eastern Sea. The alga is twisted like hemp into ropes and dried in the shade, and carried to China for food. It is exported from Ningpo and Wenchow.

The Singapore specimen labelled 'Alga from Canton and Japan' is in irregular pieces, yellowish-black in colour, soft to the touch and tough in consistence.

According to the books, *Laminaria*, known as 'Sweet Tangle' is called K'un pu, but in Malaya it has the Chinese name Hai tai or 'Sea ribbon'.

158 and 159. **Ephedra sinica,** Stapf, and other species. Gnetaceae.

麻王: Ma (hemp) wang (royal), 麻王根: Ma wang ken (root): Ma wong kan (Cant.). Ma huang (hemp yellow), Br. iii. 97; Tatar.; P.S.; T. & M.; J.R.; C.R. Alpha. 801, root 802; St.; B.E.R.; Holmes, *Ph. Journ.*, Nov. 1926; Dr. O. Stapf, Kew Bull. 3. 1927, 133; J. Small; C.R. A. Short, Quar. J. Pharm., April–July, 1928.

Many species of Ephedra are met with in Asia and Northern China, and their stems have formed an important drug in the Far East for several centuries. Royal hemp or yellow hemp is obtained chiefly from at least three species: *Ephedra sinica* of Chihli and Tanna, North China, *E. equisetina*, Bunge, and *E. distachya*, Linn. Moreover *E. Gerardiana*, Wall, *E. intermedia*, Schenk and Meyer, and *E. monosperma*, C. A. Meyer, and other varieties also yield the drug.

The parts used in medicine are the grey green glaucous switches or thin leafless branches, from 7 to 30 cm. long with internodes 3 to 5 cm. apart, terminating in a sharp point; these arise from a main stem, hard, woody, and wrinkled longitudinally and covered with a bark of reddish-brown colour with patches of silvery grey cork, diameter 4 to 7 mm. The scale leaf is a useful character for distinguishing the three main species. These occur in pairs at the nodes and are connate at the base to form a cup.

1. *sinica*, the teeth are as long as the cup and tend to be slender, fairly sharp, and frequently recurved.

2. *equisetina*, teeth much shorter than the cup and rather blunt.

3. *distachya*, teeth relatively short, but quite sharp and the whole brownish.

The two drugs from Singapore are the thin stems cut up into lengths of 5 to 6 cm., and the root, partly cut into slices, showing the reddish-brown bark.

The drug has reached considerable importance as it yields an alkaloid ephedrine, isolated in 1887 by Nagai in Japan. Ephedrine is of value in the treatment of asthma and hay fever and other affections, and has a similar action to adrenalin, but is less toxic. It also contains a second alkaloid pseudoephedrine, the action of which is more prolonged. The drug is diaphoretic and antipyretic, and the root is somewhat astringent.

160. **Epimedium sagittatum,** Baker: (*Aceranthus sagittatus*, Sieb. & Zucc.). Berberidaceae.

淫羊各: Yin (excess) yang (goat) huo: local name 'Yim yong kok'. Br. iii. 17; Tatar.; P.S. under *Populus*; S. & T.; C.R. Alpha. 1536; Henry; Hsien ling p'i, St.; B.E.R. under *E. macranthum*, M. & D.

A plant of Middle and North China, and according to Siebold, introduced from China into Japan. Dr. Henry found it in glens near Ichang in Hupeh, and observed that the drug was exported from Hankow to Canton.

The leaves are used in medicine. They are cordate with unequal base, acuminate, shining, and netted on the surface, with sharp, irregular teeth.

The leaves are tonic, stimulant, and antirheumatic. They have the reputation of being a powerful aphrodisiac and useful in kidney troubles. Goats eating the plant are said to be incited to excessive copulation, hence the Chinese name.

161. **Equisetum arvense,** Linn. Equisitaceae.

駁骨草: Po (graft) ku (bone) ts'ao (grass): common name 'Kweet cheong'. Wên ching, Chieh hsü ts'ao (because of its jointed appearance) St.; Chieh ku ts'ao, *E. ramosissimum*, Desf., Henry; Porter Smith tells us that Wên ching is a species of horsetail brought from Pe chi li. It is probable, from the Chinese name, that the drug is confused with a fern. In the Customs (Alpha. 1048) there is a medicine called Pu ku sui, or fragments of Pu ku, this is (Alpha. 624) identified as *Polypodium Fortunei*, Kze. *Equisetum arvense* is distinguished from *E. hyemale* by its thinner stems and the different arrangement of the vascular bundles. It is prescribed in decoction as an anodyne and carminative.

162. **Equisetum hyemale,** Linn. Equisetaceae.

木賊: Mu (wood, tree) tsei: local name 'Mook chak'. Pen ts'ao; Tatar.; Debeaux; P.S.; Henry; Hosie; J.R.; C.R. Alpha. 877; St.; B.E.R.; Ph. Soc. Mus.

This Horsetail or Scouring Rush grows in watery situations in Kansu and Shensi. Hosie reports its occurrence as an article of export from Szechwan. The Singapore sample was obtained locally.

The leafless, striated, fistular stems, 5 mm. in diameter, deprived of their cuticular sheaths, and cut into lengths of 3–4 cm., comprise this peculiar drug. Sometimes the stems are sold in the form of coarse powder.

On account of the siliceous material enclosed in the stems they are used for scouring and polishing wood.

In medicine they are an astringent remedy used in a variety of ailments, such as ophthalmia, leucorrhoea, and haemorrhages. In Annam the drug is considered depurative.

163. **Eriocaulon Wallichianum,** Mast. Eriocaulaceae.

穀精: Ku (grain) ching (essence, spirit): called locally 'Kook ching'. Ku chü, C.R. Alpha. 619; Tatar.; P.S.; J.R.; St.; B.E.R.; Ph. Soc. Mus.

This plant occurs in India, China, Malaya, Borneo, and Philippines to Australia. Probably more than one species of *Eriocaulon* affords the drug. The Singapore sample was obtained locally.

Stuart remarks that species of Eriocaulon are troublesome weeds which spring up after the grain has been harvested. This accounts for the peculiar name 'grain essence grass', as the plant is supposed to be produced spontaneously from the aura of the grain.

The button-shaped, whitish flower heads, 12 mm. across and 6 mm. deep, are situated at the end of the rush-like stalks. The flower heads are either sold separately or the entire herb is made up in bundles.

The resemblance to an eye suggests the use of this drug for sore eyes and eye diseases, for hemicrania and other forms of headache, and as an astringent for bleeding of the nose.

164. **Erodium sp.** Geraniaceae.

鴉草: Ya (crow) ts'ao (herb): local name 'Ah choo'.

Portions of the stem and leaves, with a few flowers and fruits of this small herb, were sent under the above name. There is no reference to this plant being used in Chinese medicine, except that an unidentified drug passing through the customs (Alpha. 694, 1488) is called by the same vernacular name.

165. **Erythrina indica,** Lam. Leguminosae.

海同皮: Hai t'ung p'i: Cantonese and local name 'Hoi t'ing phee'. Henry; Tz'u t'ung, Mat. 135, B.E.R.; Ph. Soc. Mus. as *Elaeococca spinosa.*

The Indian Coral Tree, a native of the East Indies, is cultivated in India, China, and Malaya for its useful wood, ornamental habit, and medicinal properties. It is a tree about thirty feet high with prickles on its stems and branches, and is often planted for supporting the weak stems of the pepper vine. The bark is the part chiefly used in medicine, and its virtues have been recorded by Rheede, Rumphius, and Loureiro. In China it is exported from Canton and Ningpo (C.R. Alpha. 357, 1402), but Hai t'ung p'i has been variously identified as the bark of *Acanthopanax* and *Bombax malabaricum.* There are different T'ung trees the barks of which have economic uses: T'ung or pai t'ung is *Paulownia imperialis*, S. & Z. (Br. iii. 320); Yu t'ung, yielding oil, is *Aleurites*; Wu t'ung is *Sterculia platanifolia* (Br. ii. 515). The sample of bark of *Erythrina indica* came from Canton, and is sold in slices with pieces of wood attached. It is an expectorant and febrifuge. The bark contains an alkaloid which acts upon the central nervous system (*Pharmacographia Indica*, i. 451).

166. **Erythronium dens-canis,** Linn. Liliaceae.

光菇: Kuang (smooth) ku (tuber): Kwong ku (Cant.): locally called 'Kong koo'. Hanb. Sci. pa. 262; P.S. under Tulip.; C.R. Alpha. 653; Egbakum (Japan).

This Liliaceous plant is found in Northern Asia. The small pseudo-bulbs resemble those of a tulip; they are from 12 to 14 mm. long by 8 to 9 mm. broad, oval, pointed at one extremity whitish or buff coloured and smooth. The thin outer membrane is removed; when cut, the external scale is seen to be very thick and starchy. The drug is applied to relieve scrofulous abscesses and ulcers.

These bulbs are similar to those of *Tulipa edulis*, Baker (*Orithiya edulis*, Miq.), called Shan tzü ku. These are ovate bulbs surrounded by a mass of fibrous rootlets; hence the name, Mao k'o (hairy tuber). They enter into the composition of a famous nostrum, 'Universal counter poison' (Wan ping chieh tu wan).

167. **Eucommia ulmoides,** Oliver. Eucommiaceae.

杜仲: Tu chung: local name 'Too chong'. Br. iii. 317; Pen ts'ao; Tatar.; P.S.; T. & M.; J.R.; C.R. Alpha. 1362; Henry; Hosie; St.; B.E.R.; Wilson in 'Naturalist in W. China'.

The origin of this drug was discovered in the province of Hupeh by Dr. A. Henry, (*Hook. Ic. Pl.* t. 1950 (1890); *Kew*

*Bulletin*, 1895, 122). Earlier writers ascribed it to a species of *Euonymus* or *Ulmus*.

*E. ulmoides* grows in Central China and the medicinal bark is exported from Ichang and Hankow.

The bark occurs in brownish, quilled and wrinkled pieces a few inches in length. The roughened cuticle is often removed, exposing the dark brown liber. On breaking the bark and drawing the fractured edges asunder, delicate silky fibres are seen, due to the presence of an elastic gum similar to gutta percha.

The bark is an old and valued medicine acting specially upon the liver and kidneys. It is employed in spermatorrhoea and excessive perspiration, and it is a tonic for the old as well as young.

168. **Eugenia caryophyllata,** Willd. (*Caryophyllus aromaticus*, Linn.). Myrtaceae.

丁香: Ting (nail) hsiang (fragrance): local name 'Teng Leong'. Tatar.; P.S.; J.R.; T. & M.; C.R. Alpha. 1305; St.; B.E.R.

Cloves are obtained in the Moluccas and the East Indian Archipelago. They are also exported from Zanzibar to Bombay and from there are re-exported to China and Singapore.

Cloves are the unexpanded flower-buds of this tree. The Chinese name means 'nail scent' or 'nail spice', evidently from the shape of the clove resembling a small nail. They were known as a spice in China as early as 266 B.C. (*Pharmacographia*, p. 281).

Cloves are much used as a carminative, stimulant, stomachic, and tonic, and for diarrhoea and colic in children. The fragrance is due to an essential oil consisting of a terpene and an oxygenated oil called eugenol.

169. **Euonymus pellucidifolius,** Hayata. (?) Celastraceae.

大丁王: Ta (great) ting (person) wong (royal): local name 'Tai ting wong'.

This drug from Malaya is described as a very bitter alterative. It is a mixture of sliced woody stems, about $\frac{3}{4}$ inch across, and some small twigs, 5 mm. in diameter. The latter have a slightly bitterish and astringent taste. The above species of Euonymus is found in Formosa (Hayata, *Ic. Pl. Formosanae*, iii. 57, 1913) and is called Shima azusa in Japanese, and Ti ting huang in Chinese, according to Matsumura. Dr. Read suggests from the name that the drug is obtained from *Erythrophloeum Fordii*, Oliver (*Hook. Ic. Pl.* t. 1409) found by Mr. Charles Ford in the Kwang tung province. The Chinese species resembles *E. guineense*, G. Don, of Tropical Africa, the bark of which is a powerful poison. It will be necessary to examine authentic samples of the bark and stems of the above trees before the drug can be properly identified.

170. **Eupatorium japonicum,** Thunb. Compositae.

澤蘭: Tsê (marsh) lan (orchid): local name 'Chak lan'. Tsê lan ts'ao; hu (tiger) lan, lung ts'ao (dragon jujube) Br. iii. 62; Pen ts'ao; Tatar.; P.S. under *Iris*; C.R. Alpha. 1355; Dr. Read refers Tsê lan to *E. japonicum*, and Lan ts'ao to *E. chinense*, Linn. (*E. Lindleyanum*, DC.). Stuart places both drugs under *E. japonicum*. Lan of the classics was probably a fragrant orchid, but the name at the present time seems to be applied to various species of this composite. *E. japonicum* grows on the margins of lakes in the East and South of China. Dr. Hance found in South China his species of *E. staechadosmum*, being cultivated for the fragrance of its flowers which resembled the odour of lavender; the leaves were exported from Canton.

The Malayan drug consists of the leaves with portions of the stem of the plant. The leaves show the triplinerved venation of the genus, but they have no special fragrance. The leaves are chiefly used as a diuretic and anthelmintic. There is in the Museum of the Pharmaceutical Society an exhibit of the leaves and stems of a species of 'Eupatorium from Perak, Leah pana, used for making a tea for indigestion'.

171. **Eupatorium sp.** (?) Compositae.

天香芹: T'ien (sky) hsiang (fragrant) hu: local name 'Thin hong foo'.

T'ien hsiang ts'ai is a fragrant composite noticed in the Pen ts'ao (Stuart). The stem with hairy leaves could not be specifically identified.

172. **Euphorbia Lathyris,** Linn. Euphorbiaceae.

續隨子: Hsü sui tze: local name 'Sook Chooi Che'. Br. iii. p. 240; C.R. Alpha. 16; Hosie; B.E.R.; Matsumura, Chinese Names of Plants, 139; Harz, Samenkunde, ii. 831.

This species of Spurge is found in the provinces of Chekiang and Szechwan, and the leaves and seeds are used in medicine. The plant is distributed in South Europe and Japan. The seeds are chiefly used, and are valued at T. 12 to T. 21 a picul. They are oval or barrel-shaped, 6 mm. by 4 mm., with a reticulated surface, greyish brown in colour, and truncated at one end. They contain about 46 per cent. of fat. According to Stuart the seeds and herbage are prescribed in diarrhoea.

173. **Euphorbia pekinensis,** Rupr.: (*E. lasiocaula*, Boiss.). Euphorbiaceae.

大戟: Ta (large) chi (lance): local name 'Tai Kik'. Ta Ki, Br. iii. 136; C.R. Alpha. 1215; P.S.; T. & M.; Hosie; St.; B.E.R.

The plant, about 2–3 feet high, grows in marshy places in Chihli and other parts of Northern and Mid China; its dried

roots are exported from Canton. The purplish stèmmed plant from Hang Chow in Chekiang is considered best for medicinal purposes. Other species recorded as the source of this drug are *E. humifusa*, Willd. in Szechwan, and *E. adenophora*, M. & D. in Japan.

The drug consists of the branching flexible roots attached to portions of the stem. The roots break with a resinous fracture, and are acrid to the taste, causing an irritating sensation in the throat.

The root is purgative and emetic, and is supposed to have a specific action on the bowels and kidneys. It is poisonous in large doses.

174. **Euphorbia Sieboldiana,** M. & D. Euphorbiaceae.

甘遂: Kan (sweet) sui: Kom sui (Cant.): local name 'Kam sooi'. Br.iii. 138; Tatar.; P.S.; Henry; Hosie; C.R.Alpha. 584; Mat.; St.; B.E.R.; Ph. Soc. Mus.

In older works this drug has been referred to *Passerina*, and more recently to *Wikstroemia chamaedaphne*, Meissn., and *W. micrantha*, Hemsl., plants of the order Thymelæaceae, but the root resembles that found on botanical specimens of *Euphorbia Sieboldiana*, a common weed in Mid China, especially in Shensi and Kiangsu. The drug is exported from Hankow, Amoy, and Szechwan.

The roots are cylindrical or somewhat nodular, 8 mm. in diameter, reddish or light brown, and smooth on the exterior, with a few transverse fissures; it breaks with a brittle fracture, exposing a white, starchy interior, acrid to the taste.

The drug is administered in anasarca, ascites, tympanitis, and dysuria.

175. **Euryale ferox,** Salisb. Nymphaeaceae.

芡實: Ch'ien shih: local name 'Siew sat'. K'ien shi, Ki t'ou (cock's head) Br. ii. 396; iii. 297; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 125; J.R.; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This aquatic plant grows in ponds, lakes, and submerged paddy fields, and has been cultivated throughout China from remote antiquity. The seeds, called 'Fox nuts', are exported from Wu hu and Chinkiang, and are valued at T. 2 a picul. The Malay sample came from Canton.

The seeds are oval or rounded, about ½ in. in diameter, ruddy or brownish outside or mottled or veined, pale at the hilum, white and horny within; frequently in broken fragments. They are compared to the eyes of a fish.

The seeds are often used as food. They are tonic, astringent and deobstruent in their action. A biscuit made from the kernels is given to children suffering from the *kan* disease.

176. **Evodia rutaecarpa,** Benth.: (*Boymia rutaecarpa*, Adr.). Rutaceae.

茱 夬 菓: Wu chu yü (Chu yü, of the Kingdom of Wu): Tso ng yue (Cant. and local name). Br. ii. 498; iii. 291; Tatar.; P.S. under *Zanthoxylum sp.*; T. & M.; C.R. Alpha. 1455; Henry, Chinese Plants, 96; Hosie; St.; B.E.R.

The ancient kingdom of Wu included Chekiang and Kiangsi, but this shrub has a much wider distribution as it occurs in Chihli in the North, Szechwan in the West, and in the Himalayas and Japan. The fruit, leaves, branches, and root are all used in medicine. The fruits are exported chiefly from Hankow and Pakhoi.

The fruits are small black carpels, usually separated from their pedicels, five in number, with pitted surfaces, closely connected, and mixed with the scabrous stalks of the umbellate inflorescence; they have a warm, bitter, and aromatic flavour with a pungent taste.

Clusters of the fruits are suspended in houses to expel evil spirits and ward off contagious diseases. The medical properties attributed to the drug are almost innumerable, it is generally recognized as a useful stimulant, carminative and stomachic.

177. **Fagopyrum esculentum,** Moench: (*Polygonum Fagopyrum*, Linn.). Polygonaceae.

新 蕎 麥: Hsin (New) ch'iao (buckwheat) mai (wheat): San ki'u mak (Cant.): local name 'Sin khiew mak'. Ch'iao mai, Henry; St.; B.E.R.; P.S.; Debeaux; Regnault; Soubeiran, &c.

There are two kinds of cultivated buckwheat: the sweet, t'ien ch'iao mai, and the bitter, ku ch'iao mai. The second is afforded by *P. tataricum*, Gaertn., and is considered by the Chinese to be slightly poisonous. The use of the term mai indicates that they are both classified among the cereals. Buckwheat is an important crop in the Central Provinces, where it is in much demand as a food. The small triangular, nut-like fruits are sweet and oily and are nourishing and digestible. The grains are recommended as a diet in colic, choleraic diarrhoea, fluxes of all kinds, and abdominal obstructions.

178. **Fatsia papyrifera,** Benth. & Hook, f.: (*Aralia papyrifera*, Hook.) Araliaceae.

通 草: T'ung (permeable) ts'ao (plant): local name 'Thong chow'. Br. ii. 82; iii. 184; Tatar.; P.S.; C.R. Alpha. 1405; J.R.; Henry, Chin. Plts. 299; Hosie; T'ung t'o mu, St.; B.E.R.; Kew Journ. Bot. iv. (1852) 53.

The name T'ung ts'ao is generally applied to the above plant in China. It is sometimes confounded with mu t'ung (*Akebia*

*quinata*) because the stem shows small holes or tubes which admit the passage of air.

The Chinese Rice Paper plant grows in Anhuei, Shantung, and Mid China. Dr. Henry, Hosie, and Wilson have referred to vast exports of rice paper or pith paper from Szechwan for making artificial flowers and for decorative purposes.

The specimen from Malaya consists of thin, delicate, transverse slices of a whitish pith-like stem, about two inches in diameter.

Broken rice paper (t'ung ts'ao p'ien) and cuttings (t'ung ts'ao sui) are used as surgical dressings and for absorbing discharges from wounds.

179. **Fibraurea tinctoria,** Lour. Menispermaceae.

黃藤: Huang (yellow) t'eng (creeper): local name 'Wong hung'.

*F. tinctoria* is a creeper in Cambodia, Cochin China, Malaya, and Borneo. Its tinctorial properties were observed by Loureiro and Debeaux. (*Notes sur quelques matières tinctoriales des Chinois*, 1866, Paris.) In the Kew Museum a specimen of root marked Huang t'eng is referred to this plant; it is a yellow dye used in Kwangtung, Kwangsi in China, also in Singapore. The drug from Malaya is in yellow, transverse slices about an inch in diameter, showing prominent medullary rays peculiar to a menispermaceous creeper. *F. chloroleuca*, Miers, is also a plant distributed in Malaya, the root and stem of which are used as local remedies.

180. **Ficus retusa,** Linn. Urticaceae.

榕樹須: Yung (banyan) shu (tree) hsü (beard): local name 'Yoong see soo'.

Adventitious or pendant roots of the banyan tree (C.R. Alpha. 1575) from Fukien and Kwangtung. They appear as twigs or small stems, longitudinally furrowed, thicker than a knitting needle. Stuart says the aerial rootlets of this fig are considered to be a sovereign remedy for the toothache. For this purpose they are mixed with salt, thoroughly dried and powdered, and applied to the decayed or aching tooth.

181. **Ficus sp.** Urticaceae.

無花菓: Wu (without) hua (flower) kuo (fruit): Moo fah koo, Cantonese and local name. 'Fruits of the flowerless tree' is a name frequently applied to the edible fig (*F. Carica*) and other species. Br. ii. 415; Parker; P.S.; T. & M.; St.; B.E.R.

A few dried fruits of a fig were sent as a drug under this name. The receptacle is pedunculate, pyriform, slightly verrucose, shortly hispid; scales umbilicate and prominent; basal bracts

none; about an inch long. The fruits of *F. chlorocarpa*, Bth., *F. stipulata*, *F. pumila* and *F. glomerata* have been noticed as having medicinal properties.

182. **Foeniculum vulgare,** Gaertn. Umbelliferae.

小茴: Siao (small) hui (aniseed or fennel): local name 'Siew woo'. Hui-hsiang, hsiao hui hsiang, Pen ts'ao; Tatar.; P.S.; J.R.; T. & M.; A.H.; St.; B.E.R.; C.R. Alpha. 438.

Fennel or sweet fennel is confounded in older works with aniseed and star aniseed. Fennel is called small aniseed, and star aniseed great aniseed. This confusion not only exists in the Pen ts'ao, but also in Persian and Arabic works on materia medica. The fruits, commonly called seeds, are greyish brown, slightly curved, beaked, with five prominent ridges and the characteristic aroma of fennel. The fruits are in great demand as a condiment, and are prescribed in dyspepsia and diseases of children.

183. **Forsythia suspensa**, Vahl. Oleaceae.

連翹: Lien ch'iao: local name 'Lin khew'. Lien k'iao, Br. ii. 120; iii. 120; Pen ts'ao; Tatar.; P.S.; Hanb. Sci. pa. 245; T. & M.; J.R.; C.R. Alpha. 719; St.; B.E.R.; Ph. Soc. Mus.

This yellow flowering shrub grows in mountain valleys in Hupeh, Shensi and other northern provinces of China, as well as in Japan. The drug is exported from Hankow and Tientsin.

As found in the shops the parts used in medicine are the empty, brown, boatshaped valves of the fruits, 14 to 20 mm. long, with a thin longitudinal partition on the smooth inner surface.

According to the books the drug is considered antiphlogistic, antiscrofulous, and emmenagogue; but it seems practically inert in the light of modern therapeutics.

184. **Fraxinus Bungeana,** A.DC.: (*F. pubinervis*, Blume). Oleaceae.

秦皮: Ch'in p'i: Ts'un p'i (Cant.): local name 'Choon phee'. Br. iii. 323; P.S.; St.; B.E.R.; C.R. Alpha. 172; Mat. 151.

The Chinese Ash, on which the wax insect lives, grows by riversides in Shensi, Honan, and Anhuei. Ch'in is the name of a feudal state in China (900–200 B.C.) occupying modern Shensi and Kansu, provinces where the tree grows. The bark is a drug which is shipped from Hankow, Ningpo, and Tientsin, and sold in Shanghai and Canton. The Malay drug is said to have come from Shanghai. The bark is thin, light-brown, tough, and fibrous, longitudinally furrowed externally, and darker inside. It has a bitterish and astringent taste. The virtues of the bark are mainly astringent; it is prescribed in cases of catarrhal fever and inflamed eyes. A decoction is used for snake and insect bites.

185. **Fritillaria Roylei,** Hook. and **F. cirrhosa,** D. Don. Liliaceae.

正川見: Chen (true, genuine) ch'uan (Szechwan) pei (valuable): local name 'Chin choon pooi'. Pei mu, Br. ii. 423; iii. 36; Henry; St.; B.E.R.

The species of Fritillaria, or mother plants of this drug, grow principally in Western China. The name is properly 'Pei mu from Szechwan', and the origin of this product passing through the customs (Alpha. 993) has been called *F. Roylei* by Dr. Henry and Mr. E. H. Wilson. The latter authority states (*Naturalist in Western China*, pp. 39–40, 180–86) that Hsin kai tsze is famous for Pei mu, and the traders make an enormous profit with the tiny white corms. The plants grow at from 12,000 to 15,000 feet altitude, and the corms constitute one of the most highly valued medicines of the alpine regions of the west. They are a very expensive medicine, according to Hosie the drug is worth T. 2 or 4 per catty, almost double the price of Pinella corms. The drug corresponds in size and shape and colour with the corms of *F. cirrhosa* shown on the actual botanical specimens of the plants gathered by Mr. Wilson as a source of Pei mu. Probably other species contribute to the market supply. Wilson says: 'In Hupeh, the pseudo-bulbs of *Pleione pogmoides* and *P. Henryi*, as Ch'uan pei mu, are gathered on moist humus-clad rocks at 3,000–5,000 feet.' The corms are oval in shape, a little larger than peas, 5–7 mm. in diameter, with or without the central clove, white, starchy, and tasteless. These small corms from the West are more esteemed than the larger kind from North China and Tibet. The bulbs are powdered and boiled with dried orange skin and administered for tuberculosis and asthma.

186. **Fritillaria verticillata,** Willd. var. **Thunbergii,** Baker and **F. Delavayi,** Franch. Liliaceae.

只見: Chih pei (valuable, treasure, cowrie): local name 'Che pooi'. Pei mu, Br. iii. 36; P.S.; Henry; S. & T.; St.; B.E.R.; Baemo (Japan). Porter Smith mentions the drug under the names 'Colchicum', 'Hermodactyl' and 'Uvularia'.

The above plants grow in Central, Northern, and Western China; the corms are dug up in the autumn, and, when dried, are exported from Hankow and Ningpo. The sample from Malaya came from Chekiang.

Pei mu, the name given to the corms means 'Mother of cowrie shells', because of their resemblance in size, shape, and colour to the shells of the cowrie (*Cypraea moneta*). They are also somewhat similar to the ancient drug, Hermodactyls, the corms of species of *Colchicum*. They are as large as cowrie shells with a furrow down one side, white, starchy, and tasteless. An

alkaloid, fritilline, has been found in the corms by a Japanese chemist.

The drug, whether of the small or large variety, is given in asthma, bronchitis, and tuberculosis.

187. **Fritillaria sp.** Liliaceae.

平見: Ping (even, level) pei (treasure): Cantonese and local name 'Ping pooi'. Franchet, Journ. de Bot., xii. 222 (1898).

This is an intermediate form of the drug. The corms are round, about 1 cm. in diameter, therefore larger than the Szechwan pei and smaller than the Chekiang pei.

Dr. Henry enumerates the three kinds of roots:

(*a*) Ch'uan pei. From Szechwan and Tibet. Corms about the size of a pea. Lately introduced into cultivation in Chekiang. Very valuable; 60 to 100 taels a picul.

(*b*) Lu pei. Pei mu from Lushan west of Chêngtu. Corms about the size of small marbles worth 40 taels a picul.

(*c*) Chê pei, Hsiang pei, T'u pei; produced in Chekiang province. Corms large, $\frac{3}{4}$ in. in diameter; value 5 taels a picul.

188. **Garcinia mangostana,** Linn. Guttiferae.

山竹果: Shan (mountain) chu (bamboo) kuo (fruit): called locally 'San chook hok'.

The mangosteen is a tree of the Malay States. The fruit is globular, as large as a small apple, with a thick, woody rind; it is crowned by the calycine segments which form a kind of rosette; within it is a sweet acidulous pulp and several seeds. The thick, reddish-brown rind of the fruit, cut into slices and dried, forms a commercial article in the drug shops of Malaya. It is exported from Singapore to Canton and India as a popular remedy for dysentery and chronic diarrhoea. The virtues of the fruit-rind and the stem-bark are mentioned by Rumphius, who tells us that they are useful astringents in various complaints. The drug is not much referred to in Chinese works.

189. **Garcinia dulcis,** Kurz. Guttiferae.

Biji mundu (Singapore). This name is Malay.

These are rounded-oblong, light-brown, oily seeds, about one inch long, sold in the drug shops.

190. **Gardenia florida,** Linn. Rubiaceae.

山梔: Shan (mountain) chih (siphon or cup or Gardenia): local name 'San Che'. Pen ts'ao; Lour.; Tatar.; Hanb. Sci. pa. 241–42 Fig. 8; Debeaux; Br. ii. 302; iii. 335; P.S.; T. & M.; Henry; Huang chih; C.R. Alpha. 512, 1092; St.; B.E.R.; other commercial names are: Kien (Fukien) chih tsz, exported from Hankow; Sien (bright) chih tsz'. Shan chih tsz is that usually employed in medicine, other kinds are used in dyeing.

The shrub is a native of India, China, and Japan; it is cultivated for its berries in the central, southern, and western provinces. The orange-coloured fruits, which come from Hokkien, are from ¾ to 1 in. in length, ovoid or oblong, smooth, crowned with the remains of the calyx which are prolonged down the sides of the fruits in six prominent ribs. The seeds are imbedded in an orange pulp. They are valued at T. 2·5 a picul.

The fruits have emetic, stimulant, and diuretic properties. In Malaya they are considered a cooling remedy. But the fruits are used more for dyeing than for medicine; they impart a fine orange colour to silk.

The red flowers are oppressively fragrant and are used for flavouring tea.

191. **Gardenia sp.** Rubiaceae.

山梔根: Shan chih ken: local name 'San che ngaw'.

The drug consists of transverse sections of woody stems or root, with some twigs, with a light brown bark, without taste or smell. This is not a usual Chinese drug. In India the root of *G. florida* is a remedy for headache and hysteria.

192. **Gentiana Loureirii,** Griesb. Gentianaceae.

地丁: Ti (ground) ting (nail), so called from the shape of the flower): local name 'Tee teng'. A name doubtfully given by Debeaux to *Fumaria officinalis*, and by Dr. Henry to *Viola Patrinii* (C.R. Alpha. 127); Mat. 378.

A small species belonging to the Section Chrondrophyllae, allied to *G. pedicellata*, Wall. It is an annual with a rather wide distribution in South-West China. The drug came from Canton, and consists of the stem and sessile leaves and flowers. It is very bitter.

193. **Gentiana rigescens,** Franch. Gentianaceae.

胆草: Tan (gall) ts'ao (plant); Taam ts'o (Cant.): local name 'Tam chor'. Lung tan ts'ao, 'Dragon's gall plant', a name given to gentians and other bitter plants. Tatar.; P.S.; Lung tan, *G. scabra*, Bge, C.R. Alpha. 791; St.; B.E.R.; *G. Buergeri*, Miq., in Japan, T. & M.

A perennial species of the Section Pneumonanthae, allied to *G. scabra*, Bge., from which it may be distinguished by the thick obovate leaves and short calyx lobes. Distribution, Yunnan. The drug came from Szechwan, and consists of the wiry roots with portions of stem and a few leaves. In Singapore it is used as a bitter alterative.

194. **Gesnerad** (?) Gesneraceae.

必薇: Pi wei: local name 'Pak mee'.

This plant is said to grow in water; it is imported from Canton and is available locally. It is a small plant with obovate, thick, radical leaves four inches long, clothed with whitish stellate hairs, and a fibrous root. It is probably a local medicine. There is a drug of the Customs called Pai wei (Alpha. 969) which is identified as a Cynanchum. This is quite different from the Malayan drug.

195. **Gleditschia sinensis,** Lam.: (*Mimosa fera*, Lour.). Leguminosae.

皂荚: Tsao (black) chia (pod): Tso che (Cant.): local name 'Chor chee'. Br. iii. 325; Hanb. Sci. pa. 237; Lour.; Tatar.; P.S.; Henry; C.R. Alpha. 1331; St.; B.E.R.; Pods in Ph. Soc. Mus.

The Soap bean tree is a handsome tree growing in Central and Southern China. The fruit, bark, stem, and leaves are used in medicine.

The drug sent from Canton under the above name consists of thin slices of a woody stem. The bark is blackish; the wood white and dense with brown pith. It has no taste. It is given in medicine for fevers.

The pods or soap beans are strap shaped, 6 to 7 in. long and 1 in. broad. Hanbury, quoting Loureiro, says that the valves of the pods are regarded as attenuant, stimulant, and purgative. They are called in some parts 'Table knife pods', and are used for washing clothes.

196. **Gleditschia officinalis,** Hemsl. Leguminosae.

皂角: Tsao chiao (Black horn or pod): Tso kok (Cant.): local name 'Chor kok'.

牙皂: Ya tsao (Tusk black pod) is the more correct name, being a contraction of Ya tsao chiao. Br. iii. 325; Cleyer; Hanb. Sci. pa. 248, under *Prosopis*; T. & M.; Henry, Chin. Pl. 499–500; C.R. Alpha. 1487; Stuart, under *G. japonica*; B.E.R.

Bretschneider and others have described this drug under *G. chinensis* and other leguminous plants. The pods, however, are from *G. officinalis*, according to material supplied by Dr. Henry (*Kew Bulletin*, 64, 82; *Hook. Ic. Pl.* t. 1412). The tree belongs to the west of China, and scarcely occurs east of Szechwan, though some plants are found at Patung. In Hosie's list of Szechwan medicines Ya tsao is identified correctly. The drug is exported from Hankow and Ichang.

The Malayan sample came from Canton. The pods resemble the tusks of a boar; they are indehiscent, 1½ to 2 in. long, by ½ in. broad, brown, smooth, slightly curved or sickle shaped,

sometimes abortive, and only light and spongy within. They are very acrid to the taste.

The pods contain saponin, and are used as soap. A solution applied to the skin is said to remove hair. In medicine they are expectorant, emetic, and purgative.

197 and 198. **Glycyrrhiza spp.** Leguminosae.

甘草: Kan (sweet) ts'ao (herb): Kom ts'o (Cant.): local name 'Kam Chow'. Br. iii. 1; Lour.; Tatar.; Debeaux; P.S.; J.R.; C.R. Alpha. 587; Henry; Hosie; Wilson; St.; B.E.R.

The plants affording Chinese liquorice root are *G. uralensis*, Fisch., *G. echinata*, Linn., and *G. glabra*, Linn., growing throughout the region of Central Asia. Large quantities of the root come from the Ordos territory, a steppe lying to the north of Shansi, formally belonging to Inner Mongolia. Wilson found *G. uralensis* the source of the Sung pan product. Kansu and Szechwan afford market supplies. About 5,000,000 piculs of the root are produced annually (*China Year-Book*, 1928). During the War there was a great demand from the United States for this product for making chewing gum.

(198) Two samples of liquorice came from Singapore. One is the root from Kansu, in thin transverse slices, and the other the root in fine powder. 甘草粉: Kan ts'ao fen: Kom ts'o fan (Cant.). The root is a drug of great importance in Chinese pharmacy, and stands next to ginseng in popular estimation. Besides being used to disguise more nauseous medicinal substances, it has tonic, alexipharmic, alterative, and expectorant properties.

199. **Gossypium sp.** Malvaceae.

棉花仁: Mien (cotton) hua (flower) jen (kernel): local name 'Mai fah yan'. Mien hua tsze (cotton seed), C.R. Alpha. 848; Br. ii. 369; St.

The Cotton plant was unknown to the Chinese till about the eleventh century. Before that the floss from the seeds of the Silk Cotton tree (*Bombax*) was said to be used for manufacturing cloth. The Cotton plant is now grown in all parts of Southern and Central China. A quantity of the seed is obtained annually from Kiangsu.

The kernels are light brown, oval, oily, about the size of wheat grains. They consist of the embryo with conduplicated cotyledons, divested of the hard, hairy testa. Greenish resinous ducts are evident in the sections of the seeds.

The seeds are first washed before expressing the oil. Cotton seed oil is used in leprous, scabrous, and other forms of skin diseases. Purified from the nauseous resin, the oil is demulcent and suitable for domestic and pharmaceutical purposes.

200. **Gynura ovalis,** DC. and **G. pinnatifida,** DC. Compositae.

田七: T'ien ch'i, T'in ts'at (Cant.): local name 'Theen Chat.' T'ien san ch'i, C.R. Alpha. 1298; Henry; San ch'i (Three seven) C.R. Alpha. 1059; St.; B.E.R.; Other names Shan ch'i (mountain varnish), Chin pu huan (gold no recompense). T'ien ch'i is an abbreviation of t'ien san-ch'i, said to be san-ch'i cultivated in T'ien chou in the Kwangsi province.

These plants are cultivated and wild in Kwangsi, Yunnan, and Hupeh.

The drug is a small tuberous root, top-shaped, from ¾ to 1 in. in length, wrinkled externally and marked by ridges, pale yellow and firm, darker coloured in centre, bitterish to the taste.

Vulnerary, styptic, astringent, and discutient properties are attributed to this drug. The name 'mountain varnish' is given to the root because it is supposed to cause the edges of wounds to adhere. From its extraordinary reputation among military and fighting men, the roots of these species of *Gynura* are very costly; 'Its value is beyond money', as one of the names indicates.

201. **Gyrophora vellea,** Ach. Lichenes.

石耳: Shih (rock) rh (ear): local name 'Siah yee'. Br. ii. 41; C.R. Alpha. 1146; St.; B.E.R.; Ph. Soc. Mus.

This lichen is widely distributed, and is found in upland regions covering the face of rocks. It is called 'Rock ear' in China and Japan, and the fur traders in Canada call it 'Rock Tripe'. It has a circular outline, about 7 cm. in diameter, of a cartilaginous texture, greyish brown, and smooth on the outside, and almost black and rough on the inner surface. Sometimes the plant is curved in the form of an ear. Species of *Gyrophora* are eaten by travellers and others, and *G. esculenta*, Miy., (*Umbilicaria esculenta*, Minks), is specially prepared as a food in Japan. (Miss A. Lorrain Smith, *Camb. Bot. Handbook*; *Lichens.*) In medicine this lichen is used in haemorrhage of the bowels and prolapse of the rectum (Stuart).

202. **Hibiscus mutabilis,** Linn. Malvaceae.

芙蓉花: Fu jung (Hibiscus) hua (flower): local name 'Foo yoon ha'. Fou yung hua, mu fu jung, P.S.; St.; B.E.R.; C.R. Alpha. 330.

This is a small tree that grows readily almost everywhere in China, and is cultivated in gardens. The flowers are red coloured or variegated, 3 to 4 inches in diameter; bracteoles 10, linear; sepals hairy, ovate-lanceolate, connate below the middle. These flowers are mentioned in the Pen ts'ao, and are an established remedy for pectoral and pulmonary complaints. Watters says

they are prescribed as a stimulant. The leaves are applied to swellings. The bark, like that of many other species of Hibiscus, is turned to account for making cordage or cloth.

203. **Hibiscus rosa-sinensis,** Linn. Malvaceae.

川槿皮: Ch'uan (Szechwan) chin (Hibiscus) p'i (bark) Ch'uen kan p'i (Cant.): 'Choon kin phee', local name. Chü kan fa (the flowers), Parker, Canton Plants; C.R. Alpha. 271; St.; B.E.R.

Shu Kuei, meaning 'Mallow from Szechwan', is a name given to the Hollyhock (*Althaea rosea*, Cav.) and *Hibiscus manihot*, L., the stems and roots of both being used in medicine (Br. iii. 105). The drug sent from Singapore under the above name is made up of transverse slices of the stem of a malvaceous plant. The bark is dark coloured, very fibrous and mucilaginous and agrees in its outward characters with that of *H. rosa-sinensis*. Dr. Read places the bark of *H. syriacus* among the drugs of this natural order. Regnault, in his drugs of Annam, mentions the bark of a species of *Hibiscus* as having emmenagogue properties.

204. **Hibiscus syriacus,** Linn. Malvaceae.

佛雙花: Fu (Buddha) shuang hua (flower): Local name 'Vok seong fah'. Shun, Mu kin, Br. ii. 542; Debeaux; P.S.; C.R. Alpha. 858; Hung hua ch'a, St.; B.E.R.; Ph. Soc. Mus.; Mu kunge (Japan).

This is an ornamental shrub cultivated throughout China and India. It is a common hedge plant in Hupeh and Hunan, and is often chosen for making fences. The flowers, like those of *H. mutabilis*, blossom in the morning and fall off at night, hence the name Jih chi, ephemeral or fugitive flower.

The flowers are puce coloured when fresh, darker when dry, smaller than those of the Hollyhock. The sepals are ovate-lanceolate, light grey, longer than the 6–7 linear bracteoles. The flowers are used as an infusion like tea, and taken for itching and painful skin diseases, and as a diuretic. The dried leaves are sold in shops and are held to be stomachic.

205. **Hibiscus tiliaceus,** Linn. Malvaceae.

A sample of dark hairy fibre, named Kupeh, probably from the bark of this tree, was obtained in a druggist's shop in Singapore and used as an absorbent like lint.

206. **Hibiscus Trionum,** Linn. Malvaceae.

和尙頭: Ho (peace) shang (to esteem) t'ou (head): Wo sheung t'au (Cant.): local name 'Woh seong tow', meaning of the name 'Buddhist priest's head'. The drug occurs in thick slices, about an inch or more in diameter, of a reddish coloured

root with dark reddish brown bark. Dr. Read suggests the above plant as the origin. Botanical specimens of the plant are only about a foot in height, while the drug, from the size of its root, appears to belong to a much larger shrub or tree. *Hibiscus Trionum* occurs in Chihli and Shantung, and is widely distributed in warm regions of the old world.

207. **Hordeum vulgare,** Linn. Gramineae.

麥牙: Mai (barley or wheat) ya (tooth, sprout): local name 'Mai ngai'. Br. iii. 219, 220; Tatar.; P.S.; C.R. Alpha. 817; St.; B.E.R.

In China barley is called Ta mai or great corn, and wheat Hsiao mai or small corn. Kung mai (naked barley) and No mai are varieties of barley grown in Szechwan and Shantung.

Mai ya or Kung mai nieh are names for barley sprouts used in medicine. They are prepared by moistening the grains with water, allowing them to germinate, and then drying them in the sun. The sprouts are rubbed off and the grain ground into flour. The germinated barley or malt with the radicle attached is used as peptic, stomachic, lenitive, demulcent, and expectorant. It enters into a number of prescriptions given for infantile complaints.

208. **Hovenia dulcis,** Thunb. Rhamnaceae.

枳椇子: Chih (thorn) chü (Hovenia) tzü (seed): Chat cha tsz (Cant.); local name 'Chee Kooi Chee'. Kü, chi ku, chi kou, Br. ii. 489, 490; Kuai tsao (crooked jujube); Pen ts'ao; Kaempfer; Tatar.; Debeaux; Hanb. Sci. pa. 238; P.S.; C.R. Alpha. 429; Hosie; St.; B.E.R.

This is a common tree in the Eastern provinces of China, and distributed in India and Japan. It is frequently planted in gardens.

The part used in medicine is the curiously contorted, fleshy, russet-coloured, fruit-bearing peduncle, which has the flavour of pears. The pea-like fruits are seated on this, but are not so pleasant to the taste. Both the fleshy peduncles and fruits are considered to be antifebrile, laxative, and diuretic, and are used to diminish the effects of excess of wine.

209. **Hydnocarpus anthelmintica,** Pierre. Bixaceae.

風油子: Feng (leprosy) yu (oil) tzu (seed): local name 'Foong yau tze'. Ta fung tsze, Hanb. Sci. pa. 244, Fig. 9; Pen ts'ao; Tatar.; P.S.; T. & M.; C.R. Alpha. 1221; St.; B.E.R.; Kew Bull., 1926, 17–23; Rock and Fairchild, U.S. Dept. Agric. Bulletin No. 1057 (1922). Chinese Chaulmugra seed.

The tree occurs in Siam and Indo-China up to elevations of 1,000 ft. The tree attains a height of 60 ft. The seeds are imported into China and Singapore from Siam and Cambodia. They are from ½ to ⅞ of an in. long, of an oblong or ovoid shape, very irregular, owing to the mutual pressure in the fruit. They consist of a hard, woody shell containing the oily albumen, enclosing large, heart-shaped, leafy cotyledons. The kernel forms 32 per cent. of the seeds. Methods for preparing the oil are recorded in the Pen ts'ao, and for ages this has been employed in the treatment of leprosy, parasitic pediculi, and many skin diseases. This knowledge has been confirmed and utilized in recent years. The oil has been found by Power and Barrowcliff to have two fatty acids, chaulmoogric and hydnocarpic acid (*Journ. Chem. Soc.* 1905, 884–96). Fractions of the acids rich in hydnocarpic acid, as sodium salts and esters of the acids, have been prepared and injected for leprosy. Sir Leonard Rogers has met with great success in using this treatment in the East. The oil is official in the Japanese Pharmacopoeia, and is similar in composition to that of the Indian Chaulmugra seeds (*Taraktogenos Kurzii*).

210. **Hypericum japonicum,** Thunb. Hypericaceae.

田基王: T'ien (field) chi wang: local Cantonese name 'Thin Kee wang'. C.R. Alpha. 1286; Siao lien kiao, S. & T.

This species of St. John's Wort is distributed widely from N.W. India to Japan and southwards to Australia. It is a small annual, a few inches high, with prostrate, glabrous, 4-angled stem, leaves ½ in. or less, clasping the stem, ovate; flowers ¼ in. in diameter, yellow. It is probably the small lien k'iao of Su Kung (Br. ii. 120; iii. 120), the larger one being a *Forsythia*. The allied species, *H. chinense*, the Chinese St. John's Wort, called Kin sin, with much larger flowers, is that alluded to by Stuart and Read. These plants probably have similar properties. They are credited with astringent and alterative action, and externally they are used as vulneraries.

211. **Hypoxis aurea,** Lour.: (*Curculigo ensifolia*, R.Br.). Amaryllidaceae.

仙茅: Hsien (fairy) mao (a reed): local name 'Sin mow': Mao ken; C.R. Alpha. 453, 456; St.; B.E.R. Cleyer; P'o lo mên shên. 'Brahminical Ginsing'; Ph. Soc. Mus.

The plant is found in North India, Cochin China, and Japan. The drug comes from Hupeh, Fukien, and Kwangtung. The Singapore sample is labelled 'From Szechwan'. Hosie uses for the Szechwan drug the synonym *H. minor*, Don.

The root is cylindrical, of the size of a goosequill, in lengths of one inch or more, brown, wrinkled, and shrivelled. It swells in water and is mucilaginous, but has no distinct odour or taste.

The microscope reveals small starch grains and bundles of needle-shaped crystals.

Stuart alludes to the drug being called 'Brahminical ginseng' on account of its being brought from India. It resembles the Black Musali of the Hindu and Mohammedan physicians. From Sanskrit its name is Ho lun lei t'o, the root of *Curculigo orchioides*, Gaertn. Its properties are similar to ginseng, being reconstructive, rejuvenating, aphrodisiac, and tonic.

212. **Ilex latifolia,** Thunb. Ilicaceae.

燈茶: Têng (lamp) ch'a (tea): local name 'Thung cha'.

Stuart and Read include an allied species, *I. pedunculosa*, Miq., under the Chinese name of Tung Ch'ing (winter green), in their lists of medicinal plants. Both of these species are evergreen trees of China and Japan, and the latter is mentioned in Br. ii. 490.

The leaves of *I. latifolia*, sent as a drug, are thick, ovate, pointed at each end, 13 cm. long by 4·5 cm. at the broadest part. They are probably used, like other Ilex leaves, as a substitute for tea or medicinal drink. Stuart says the ashes of leaves of species of Ilex are good for skin diseases and poisoned wounds.

213. **Illicium verum,** Hook. f. Magnoliaceae.

大茴: Ta (great) hui (anise): local name 'Tai woo': P.S.; T. & M.; J.R.; Hosie.

Ta hui is the larger kind of anise in contradistinction to Hsaio hui, small anise, which is referred indiscriminately to the fruits of Anise (*Pimpinella anisum*) and Fennel (*Foeniculum vulgare*). Star anise is also called Pa chioh or 'eight horns'. Adas china (Malay).

True star anise is produced in Kwangtung, Cochin China, and Annam. It is cultivated in South East Kwangsi and in the territory of Tonkin, which together possesses the world's monopoly of this valuable product. Nanning on the West River in Kwangsi is the chief town of export. Hong kong is the chief distributing medium for foreign countries, both for the fruits and oil. The star shaped fruits composed of eight radiating boat shaped carpels vary from one to one and a quarter inches in diameter. They contain about 5 to 7 per cent. of essential oil consisting of solid and liquid anethol. Japanese Star anise called 'Skimmi' (*I. anisatum*, Lour; *I. religiosum*, S. & Z.) is poisonous. Wood cuts and descriptions of the two fruits are found in a paper by Mr. E. M. Holmes in *Pharm. Journ.* (3) xi. 489. The fruits of true star anise are given in colic and constipation, and used in confectionery and for seasoning food. The oil is largely consumed for flavouring spirits in the manufacture of liqueurs.

214. **Imperata arundinacea,** Cyrill. Gramineae.

白茅根: Pai (white) mao (grass) ken (root): Pak mau kan (Cantonese and local name). Br. ii. 459; iii. 37; Tatar.; P.S.; Mao kên, the drug; C.R. Alpha. 825; Mao ts'ao, the stems; St.; B.E.R.; Hosie; Wilson.

This grass is common in many parts of China bearing panicles of white flowers. It is used for thatching houses, and in the West the stems are used in the manufacture of paper. (See article on 'Lalang Grass', *Kew Bulletin*, 1909, 55.) The young shoots or 'needles' of the plant are eaten.

The medicinal roots are exported from Amoy and imported from Hong-Kong into Canton. They are whitish, long, thin, and flexible like a tendon, and are provided with joints and nodes. They have sweetish taste.

The roots have restorative, tonic, haemostatic, and antifebrile properties.

215. **Indigofera tinctoria,** Linn. Leguminosae.

大青: Ta (great) ch'ing (blue): local name 'Tai ching'. Br. ii. 392; C.R. Alpha. 1218.

Loureiro, Faber, Hance, and Hosie have written about the cultivation of indigo in Kwangtung and Kwangsi in South China. Bretschneider states that it was introduced from Persia, probably meaning India. The chief use of indigo is as a dye, blue garments being particularly tasteful to the Chinese. A blue colouring matter is also obtained in China from *Isatis tinctoria*, *Polygonum*, and *Peristrophe tinctoria*, Nees.

The specimen of leaves and stems that came from Canton were recognized as belonging to the indigo plant, but they appeared to have been exhausted of all soluble substances. This is explained in an unpublished note by Sir Alexander Hosie; 'Indigo refuse, under the name of Ch'ing tai, is employed in medicine, and costs about T. 1·20 a picul.' As in England, the blue bag is used in China as a domestic remedy for the stings of bees and wasps.

216. **Inula japonica,** Thunb.: (*I. britannica*, Linn.; *I. chinensis*, Rupr. Compositae.

福花: Fu (happiness) hua (flower): local name 'Fook fah'. Süan fu hua; in Shantung, Kin ts'ien hua (golden coin flower), Br. iii. 81; Pen ts'ao; Tatar.; T. & M.; C.R. Alpha. 475; P.S.; Hosie; A.H.; St.; B.E.R.; Ph. Soc. Mus.

This plant, an Elecampane, grows in North China, Mongolia, Korea and Japan. It is cultivated in gardens in Shansi and Hunan, and the flower heads, which are the most esteemed part of the plant for medicinal purposes, are exported from Canton. They are golden yellow heads of this composite, with a bitter

and aromatic taste. Sometimes the whole plant, dried, is on sale in the shops in China and Singapore.

The drug is tonic, stomachic, alterative, and carminative.

217. **Ipomoea Batatas,** Lam.: (*I. fastigiata*, Sw.). Convolvulaceae.

西花粉: Hsi (West) hua fen: local name 'Fah foon'.

Hua fen (t'ien hua fen) is a well-known Chinese product (C.R. Alpha. 494, 1292) usually referred to the root of a *Trichosanthes*. The root and flour made from it are exported from Chinkiang and Hankow (Br. iii. 172). Bretschneider, however, doubts the origin of a specimen sold in an apothecary's shop in Peking. The above or 'Western' drug was imported from Kwangsi, and occurs in white circular slices of the Sweet Potato. This is confirmed by the microscopical character of the starch. This crop is cultivated everywhere in China. Hosie remarks, under Szechwan Plants, 'Sweet potato is preserved by being cut up into slices or strips, which are first scalded in boiling water and afterwards dried in the sun. They are kept for sale during the winter months'. The root enjoys a great reputation, both in cookery and as a medicine. In Malaya the root is made into a drink to allay thirst in fever.

218. **Juglans regia,** Linn. Juglandaceae.

胡桃: Hu t'ao (Hu means *Persian* usually in Chinese names): local name 'Hup thor'. C.R. Alpha. 377; St.; B.E.R., B. Laufer, Sino-Iranica, 254–75.

The Walnut is distributed throughout Europe and Asia. According to Pliny it was introduced into Italy from Persia, and the Romans called the fruit *Nux persica*. The Chinese word t'ao refers to peach and walnut, and probably suggests a Persian origin, or the resemblance of the green fruit to the peach. The tree grows in Northern and Western China, Tangut, and Kokonor up to 8,500 ft. Hosie identifies *J. mandschurica*, Max. as the walnut of the mountains north of Szechwan. *J. Sieboldiana*, Max. is the walnut of Japan.

The few walnuts in the Malay collection came from Canton. Walnut kernels are said to produce plumpness of the body, and to strengthen and lubricate the muscles. They are recommended in heartburn, colic, and dysentery.

219. **Juncus effusus,** Linn. Juncaceae.

燈心花: Têng (lamp) hsin (wick) hua (flower): Cantonese and local name 'Tang sam'. Teng hsin ts'ao (lamp-wick herb) Têng ts'ao (lamp herb) Hu hsü ts'ao (tiger beard herb) Br. ii. 176, 455; Henry, China Pl. 450; P.S.; St.; B.E.R.; Ph. Soc. Mus.

This rush grows abundantly in the marshes of Central and

Western China. It occurs both wild and cultivated, and is collected for its pith which is used for lamp wicks, and for mat making. Large quantities, according to Dr. Henry are exported from Szechwan, and come down the river in bales, stacked in two or three boats lashed together.

The stalks are steamed in order to remove the cuticle, and the white cord-like pith is used in medicine and surgery. The pith is a convenient medium for keeping open fistulous sores, and its medicinal properties are said to be antilithic, pectoral, and discutient.

220. **Kaempferia pandurata,** Roxb. Zingiberaceae.

莪 术: O shu: Ngo shut (Cant.): local name 'Ngo soot'. Ngo shu or O shu, contraction of P'eng ngo shu. C.R. Alpha. 1003; Pen ts'ao; Mat. 191; A.H.; St.; B.E.R. Laufer, Sino-Iranica, 313.

The drug comes from the East Indies and the southern provinces of China. It occurs in slices of a rhizome about 1 in. in diameter, yellowish brown, somewhat like turmeric, but harder in consistence and darker. On the outside rootlets arise from small depressions, and the upper part is marked with circular scars. The odour is fragrant and lemon-like, and the taste pungent. Carminative, stomachic, and cholagogue properties are attributed to the drug.

221. **Laminaria saccharina,** Lam. Algae-Laminariaceae.

海 带: Hai (sea) tai (ribbon): local name 'Hoi tai'. Hai tsai (sea vegetable) Br. iii. 200; P.S.; J.R.; C.R. Alpha. 354; St.; B.E.R. The name, Hai ts'ao (seaweed) in this collection is given to a species of *Sargassum*, while K'un pu, the name Bretschneider gives to *Laminaria*, is applied in Singapore to a species of *Enteromorpha*.

*Laminaria saccharina*, or Sweet Tangle, is a large seaweed growing on the coast of China, Manchuria, and Korea, and furnishes several dietetic preparations. Dr. Read believes *L. religiosa*, Miyabe, of the China Sea to be that most used in medicine; while Matsumura enumerates 14 species with separate vernacular names and therefore used for various purposes. The Malayan drug, which is said to come from Japan, occurs in flat, reddish-brown ribbons or fronds about four inches wide, and has a bitter and saltish taste. The seaweed, like several other kinds, contains iodine. Ancient Chinese writers prescribed preparations of algae for goitre, bronchocele and other disorders in which iodine is still an acknowledged remedy. Gilhar ka patta (the Hindustani name of the same seaweed), is highly prized in India for similar complaints.

222. **Languas Galanga,** Burkill: (*Alpinia Galanga*, Swartz, *Amomum Galanga*, Lour.) Zingiberaceae.

紅荳蔻: Hung tou k'ou (Red nutmeg): Hung tau k'au (Cant.): local name 'Hoong tow kow'. Hung tow kow; Kaou leang keang tsze, Hanb. Sci. pa. pp. 107, 252. Figs. 10, 11. Similar vernacular names used by Loureiro, Rumphius, Tatarinov, Bretschneider (iii. 57); P.S.; T. & M.; J.R.; St.; Hosie. Dr. Read refers the drug to *Alpinia Kumatake*, Mak., (Jap. Bot. Mag. xvi, 49), a Japanese species distinct from Galanga.

These are the fruits of the Greater or Java Galanga, called Red or Galanga Cardamoms or Red Nutmegs. The plant is common in the Malay Peninsula, both cultivated and wild, and extends from the Eastern Himalaya to Tonkin, Annam, and Cochin China. There are various races of this plant produced by cultivation distinguished by the colour and aroma of their rhizomes. Hosie says the plant is cultivated in South China.

Hanbury's description of Galanga Cardamoms which he obtained from an anthentic plant agrees with the sample from Malaya.

The capsules are 14 mm. long and 8 mm. broad, of an oblong form, somewhat constricted in the middle. Each fruit is crowned with the remains of the calyx; in a few a slender pedicel is attached. The capsules are shrivelled on the outside, and from a pale to a deep reddish-brown colour. The seeds are united in a three-lobed mass, completely invested in a whitish integument; they are ash-coloured, flattish, and somewhat three cornered. The seeds as well as the pericarps have a pungent burning taste and an aroma of galangal root.

The seeds are calefacient, alterative, stomachic, sternutatory, beneficial in colic, diarrhoea, and vomiting.

The aromatic rhizomes of the Greater Galangal are used in medicine as well as for seasoning food, but they are not so important medicinally as those of the Lesser Galangal (Hosie).

223. **Languas globosa,** Burkill: (*Alpinia globosa*, Horan. *Amomum globosum*, Lour.). Zingiberaceae.

草蔻仁: Ts'ao (herbaceous) k'ou jên (kernel); Ts'o k'au yan (Cant.): local name 'Chow khow yin'. Tou k'ou, Ts'ao tou k'ou, Br. iii. 58; Hanb. Sci. pa. 95–7, 248, Fig. 3; Lour.; Tatar.; C.R. Alpha. 1314, 1346; P.S.; Crevost and Lemarié; St.; B.E.R. under *Amomum costatum*, Roxb.

This is the small round cardamom obtained from plants native of Cochin China, Tonkin, and South China. The drug is exported from Canton, and is sometimes called 'wild cardamom'.

The capsules are pedicelled, globular, 7 to 10 mm. in diameter, grey, much wrinkled. The pericarp is thin and easily torn from

the globular, adherent mass of seeds. Each seed has a bifurcate furrow on the outer face; odour and taste faintly aromatic.

In commerce the round clusters of seeds frequently occur without pericarps, as they do in this specimen.

The large round cardamoms are larger than the above; the capsules are less globular, and the pericarps are not so fragile.

The seeds are much employed as a condiment, and as a stomachic and carminative in medicine.

224. **Languas officinarum,** Burkill: (*Alpinia officinarum*, Hance). Zingiberaceae.

良姜: Liang chiang: Leung keung (Cant.): local name 'Leong keong'. 'The Lesser Galangal, called Kao liang chiang, or briefly Liang chiang, after the name of Kao chou, formerly Kao liang prefecture in the province of Kwangtung, where it is principally collected '(Hosie). 'Wild ginger' is another meaning to the name, Br. iii. 57; Man kiang or the 'ginger of the Man-tsze', the aborigines of South-Western China, is another name for the root. This drug is mentioned in all works on Chinese Materia Medica: the Pen ts'ao, Loureiro, Debeaux, Tatarinov, Hanbury, Porter Smith, Soubeiran, Tsudsioka and Murai, Regnault, Stuart, and Read. But there has been some confusion between the origin of the drugs called Galangal derived from the Arabic khalanjan or corruption of the Chinese name. The source of the two drugs is discussed by Hanbury in a paper 'Historical Notes on the Radix Galangae of Pharmacy' (*Journ. Linn. Soc.* 1871; *Science Papers*, 370–5).

Garcia da Orta (1563) was the first writer to point out that there are two sorts of galangal—one of a smaller size and more potent virtues brought from China, and the other a thicker and less aromatic rhizome produced in Java. The Greater Galangal is yielded by *Alpinia Galanga*, now *Languas Galanga*, a plant of Java; the lesser Galangal is derived from a Chinese plant which Dr. Hance described, in 1867, as *A. officinarum*, now placed in the genus Languas of Koenig.

The latter plant is cultivated in Kwangtung in the South, and is both wild and cultivated in the island of Hainan.

The root is about two inches long, and less than half an inch in diameter; externally of a rusty brown colour, longitudinally striated and transversely marked with remains of leaf-sheaths. Internally it is greyish-brown, and breaks with a fibrous fracture; the odour is aromatic, and the taste is hot and spicy like a mixture of ginger and pepper.

Lesser Galangal is exported in large quantities from Hong-Kong and the Straits Settlements to India and Europe for use in medicine and as a flavouring material. It frequently takes the place of ginger as a spice. Its chief consumption in Russia is for

flavouring liqueurs. It is also used by perfumers. Manifold virtues are ascribed to it as a medicine, mainly, however, it is an aromatic stimulant, stomachic, and carminative.

Three specimens of the flowers of Lesser Galangal are included in the drugs from Singapore. They are labelled:

225. 川樸花: Ch'uan p'o hua: local name 'Choon pook fah'.

226. 春砂花: Ch'un sha hua: local name 'Choon sa fah'.

227. 橘紅: Chü hung: local name 'Kut hong'.

But it is strange that the names do not apply to flowers of the galangal plant. The first name is that of the fragrant flowers of a Magnolia from Szechwan. The second applies to the flowers of the hairy cardamom (*Amomum villosum*). The third name is that for orange flowers. There is not much information about the use of these small reddish flowers of galangal as a drug. Soubeiran and de Thiersant, under the heading of *Alpinia chinensis*, Roxb., a species allied to *A. officinarum*, remark that the plant growing in Canton affords medicinal flowers which serve as alexipharmic and for dissipating the fumes of alcohol from the breath.

228. **Leonurus sibiricus,** Linn. Labiatae.

坤草: K'uen (earth) ts'ao (herb): local name 'Kwan chor'. Ch'ung wei, I mu ts'ao, Br. iii. 78; P.S.; C.R. Alpha. 283, 550; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The flowering stems and seeds of the Siberian Motherwort are the parts used in medicine. There is, however, some confusion regarding the origin of this drug. The Chinese names are also applied to *L. micranthus*, Max., and in Manchuria to *Lycopus lucidus*. It is sometimes confounded with *Verbena officinalis*, known as Ma pien ts'ao, the 'horse whip plant', and sometimes with a *Serratula*. The dried plant from Singapore is said to have been collected from plants raised in gardens in China and locally. It has square stems, pinnatifid leaves, and a faint odour and bitter taste. Porter Smith says it is prescribed as a tonic, alterative, vulnerary, and general remedy in puerperal and menstrual diseases. The latter property is indicated by one of the names, I mu, 'benefitting mothers'.

229. **Ligustrum lucidum,** Ait. Oleaceae.

竟子: Cheng (chastity) tzü (seed): King tsz (Cant.): local name 'Ching chee'. Nü (girl) cheng (chastity), Br. iii. 342; P.S.; Tung ch'ing shu (evergreen tree); Ch'ung shu (insect tree): Hosie; Henry; Wilson; C.R. Alpha. 913; St.; B.E.R.; Ph. Soc. Mus.

This large-leaved Privet is one of the White Wax trees of China. It is evergreen, with oval pointed leaves, white

flowers in thyrsoid clusters and black fruit. Because of its white, fragrant flowers, the tree is regarded as an emblem of chastity. It grows throughout China, and according to Hosie it is the tree most commonly inhabited by the wax insect, especially in Szechwan. The fruits are used in medicine and are exported from Hong-Kong. These are berries nearly half an inch long, oblong, black, wrinkled, containing one nut. The taste is bitterish. The fruit is said to promote longevity. The fruit and bark are made into mixtures for rheumatism.

230. **Lindera strychnifolia,** Villar: (*Daphnidium Myrrhae*, Sieb. & Zucc.: *D. strychnifolium*, Sieb. & Zucc.).

Lauraceae.

台烏: T'ai (exalted) wu (black): local name 'Thoi woo'. Wu yao; T'ien tai wu yao, Tatar.; Debeaux; J.R. and P.S. under *Daphnis Myrrhae*; C.R. Alpha. 1235 and 1478; A.H.; Hosie; St.; B.E.R.; Ph. Soc. Mus. as *Daphnidium sp.*, Ou io (Annam).

A variable species of Lindera, with the habit of a tea shrub, frequently found in provinces south of the Yang-tze. The drug is imported from Canton, and consists of thin slices of woody roots, whitish in colour, with a thin brown bark, and having an aromatic odour and camphoraceous and pungent taste.

Tonic, astringent, and carminative properties are attributed to this drug which is supposed to act like Myrrh or Lign Aloes.

Kondo and Sanada have examined the root and found in it a crystalline alcohol of a camphoraceous odour and taste, called linderol, and other crystalline bodies.

231. **Linum usitatissimum,** Linn. Linaceae.

胡麻子: Hu (foreign) ma (hemp) tzu (seed): local name 'Woo mah chee', Br. ii. 388; C.R. Alpha. 486; P.S.; J.R.; Hosie; St.; B.E.R.

Flax was unknown to the ancient Chinese, and its cultivation most probably has been introduced from the west. In the Pen ts'ao the term Hu ma is applied to the seeds of Sesamum and Indian hemp (*Cannabis*). In the Chi wu (1848) a good drawing of the flax plant is shown under the name of 'Foreign hemp of Shansi'. Linseed is now grown extensively in the mountains of North China and South Mongolia, for its seed which is used for oil. Its fibre is of poor quality and is not suitable for textile manufacture.

232. **Lithospermum erythrorhizon,** Sieb. & Zucc.

Boraginaceae.

梗紫草: P'ien tzu (purple) ts'ao (herb): Pin t'sz ts'o (Cant.): local name 'Phin see chow'. Br. iii. 23; Tatar.;

Debeaux; P.S. under *Anchusa tinctoria*; T. & M.; J.R.; C.R. Alpha. 1024; Henry; Hosie; St.; B.E.R.

The plant, sometimes called Gromwell, grows in North and Central China, and is cultivated in certain districts for its dye root. It also grows in Japan where the root is called Japanese Alkanet. It is exported from Ichang, Newchwang, and Canton.

The drug occurs in long, woody, twisted roots, with the outer portion peeling off in flakes, all parts being of a purplish-red colour. The colouring matter is soluble in spirit and oils.

The drug is used as a dye in China, Japan, and other countries in the East. In medicine, because of its red colour, it is supposed to have a marked action on the blood. It is given in skin affections and eruptive fevers.

233. **Litsea sp.** Lauraceae.

桂月: Kuei (cassia) yüeh (moon): local name 'Kwee yoot'. Br. iii. 304; Porter Smith, under 'Cassia Buds'; St.; B.E.R. under *Laurus nobilis*, Linn.

The sample consists of portions of fruits and peduncles of a lauraceous tree or shrub. They are probably the 'Cassia moon seeds' referred to by Bretschneider under *Litsaea glauca*, Sieb. There is a tradition that these seeds fall down from the moon. In the seventh century there was a fall lasting ten days. In the eleventh century a number fell during fifteen moonlight nights. In the Pen ts'ao these fruits are recommended for certain eczematous affections behind the ear, called 'moon sores'. Like cinnamon bark they are also used for diarrhoea and coughs.

234. **Lonicera japonica,** Thunb.: (*L. chinensis*, Wats.). Caprifoliaceae.

金銀花: Chin (gold) yin (silver) hua (flower): local name 'Kam ngai fah'. Br. iii. 191; Lour.; P.S.; Tatar.; St.; B.E.R.; Hosie; Henry, Chin. Pl. 66; C.R. Alpha. 162–5; Ph. Soc. Mus.

The Chinese Honeysuckle or Woodbine is well distributed over China and is much cultivated about Peking. The flowers of the above, and probably other species, are exported from Chinkiang, Tientsin, and Canton. The Malayan drug is obtained locally and from China. The market value of the flowers is T. 6, and upwards a picul.

The fresh flowers are white and yellow in colour or, as the name suggests, silver and gold. The dried flowers in the medicine shops are small, brown coloured, and have the odour of tobacco. They have antifebrile, corrective, and astringent properties, and their continued use as a medicine is said to increase vitality and lengthen life.

235. **Lophanthus rugosus,** Fisch. Labiatae.

藿香: Huo hsiang (fragrant): local name 'Khok heong'. Tatar.; P.S.; T. & M.; J.R.; Hosie; C.R. Alpha. 371; B.E.R.; St. A number of Sanskrit and other foreign names are given in the Pen ts'ao for the plant.

This labiate grows in Annam, India, and other parts of S. Asia. Cultivated plants of this genus are brought from Ningpo and Hankow for medicinal purposes. The leaves and twigs in this collection were imported from Canton.

The drug in the form of tea is carminative and stomachic, and is useful in the treatment of uterine fluxes and blood diseases.

236. **Lophatherum gracile,** Brongn.: (*L. elatum*, Zoll.) Gramineae.

淡竹: Tan chu (bamboo): local name 'Tham chook'. Tan chu yeh (leaves). Br. ii. 463; St.; B.E.R.; Co may (Annam).

A grass in waste land in China, Japan, Java, and Amboyna. It is recognized by its cross-veined leaves somewhat resembling those of a young bamboo.

In Indo-China the root is mixed with fermenting cereal grains in the production of wine, giving the finished product a peculiar and agreeable odour (Crevost and Lemarié). The leaves are considered to have antifebrile and diuretic properties.

237. **Loranthus Yadoriki,** Sieb. & Zucc. Loranthaceae.

桑寄生: Sang (mulberry) chi (lodge) sheng (born): called locally 'Song kee sang'. Sang shang ki sheng (lodging on the mulberry tree; a parasite), Br. iii. 354; P.S.; C.R. Alpha. 1067; Henry; Hosie; St.; B.E.R.

The twigs and leaves of a number of parasitic plants or epiphytes, which go under the name of Chi sheng, are known specifically by the names of the trees on which they are attached, such as Yü (Elm), Liu (Willow), Sang (mulberry) chi sheng. They are all used in medicine; the last kind is most esteemed. The twigs and leaves in Szechwan are valued at H.T. 3·5 a picul. The Singapore drug is obtained locally and is also imported from Canton. The sample consists of the thin stems of a parasitic plant cut into transverse slices, showing a blackish bark, and a dense whitish wood with slightly radiating medullary rays. The drug is said to be a valuable female remedy; it is prescribed in puerperal difficulties, threatened abortion, and insufficient secretion of milk.

238. **Lycium chinense,** Miller. Solanaceae.

A common shrub in the Northern and Western Provinces with soft, thin leaves, and small, reddish-purple flowers and red fruits. The plant affords two well-known drugs.

杞子: Ch'i tzü (Berries): K'i tsz (Cant.): local name 'Kee chee'. Kou k'i tsz. Br. iii. 345; Tatar.; Debeaux; P.S. under *Berberis Lycium*; C.R. Alpha. 607; A.H.; J.R.; T. & M.; St.; Hosie; Chu (kou) ch'i, B.E.R.

The small red fruits are collected in the autumn when they are of the size of small grapes. When dry they are oblong, about ½ in. long, wrinkled, black, one celled, and contain a few seeds. Mawkish and rough to the taste. They are imported from Hankow. In medicine they are tonic and cooling, and are given to improve the complexion and brighten the eyesight.

239 土地骨: Roots: T'u (local) ti (earth) ku (bone): local name 'Thoo tee kwaat'. J.R.; Ti ku p'i, 'earth bone skin'. Br. ii. 526; iii. 345; A.H.; T. & M.; C.R. Alpha. 1267, 1384; Ph. Soc. Mus. The root bark comes from Cochin China and exported from Hankow and Canton. It is in transverse sections, oval outline 1 in. by ½ in. showing a yellowish-brown bark, white hard wood and brownish pith. The bark has a bitter taste.

The root has antifebrile, antirheumatic, and tonic properties, and is supposed to have a special action on the kidneys and sexual organs.

240. **Lycium sp.**: (?). Solanaceae.

川地骨: Ch'uan (Szechwan) ti (earth) ku (bone): Ch'uen ti kwat (Cant.): local name 'Choon tee kwaat'.

This drug, as its name implies, comes from Szechwan. It consists of pieces of the lower part of the stem, as thick as a pencil, with yellowish-brown, corky bark; it has no specific taste.

241. **Lycoperdon sp.**: (*Bovista sp.*). Fungi-Lycoperdaceae.

馬勃: Ma (horse) po (wind): local name 'Mak pot'. Br. iii. 213; Tatar.; Debeaux; C.R. Alpha. 808; P.S.; J.R.; St.; B.E.R.; Sarang burong (Malay).

A specimen of Ma pu collected by Porter Smith and exhibited in the Museum of the Pharmaceutical Society, was identified by M. C. Cooke as a species of *Polysaccum*. (A. Henry, *Pharm. Journ.*, ii. [3] 161.)

The Chinese Puff-ball, met with in Central China, grows on decaying wood in damp places, and sometimes assumes a large size, e.g. *L. giganteum*. When ruptured, it discharges its spores in a fine powder. The Chinese name and the botanical name, *Lycoperdon* (λύκος: wolf, πέρδω: break wind) refer to this phenomenon. The dried puff-balls are exported from Chin-kiang and Canton. The drug occurs in broken, light-brown or buff-coloured globular wrinkled masses, hollow and soft, resembling tinder. Mixed with honey or sugar, the drug is given in affections of the throat and diseases of the lungs. The spores are used as a dusting powder.

242 and 243. **Lycopodium serratum,** Thunb.: (*L. javanicum*, Sw.). Lycopodiaceae.

金不換: Chin (gold) pu (not) huan (exchange): local name 'Kim pit woon'.

金耳還: Chin (gold) erh (ear) huan: local name 'Kam yee van'.

This club moss has slender, sub-erect stems, half to one ft. long, and dichotomously forked. The leaves are laxly disposed, lanceolate, bright green, crisped, and serrated, irregular in size on the same branch. It is distributed throughout China, Japan, the East Himalayas, and the Nilgiris in India, Ceylon, Java, and Sumatra. The entire plant is used in medicine. It seems to be a harmless substance, but from one of the Chinese names it is a remedy 'not to be exchanged for gold'. Bretschneider (iii. 212) refers to several other species of Lycopodium, growing in China and Japan, which are also used medicinally.

244. **Lysimachia foenum-graecum,** Hance. Primulaceae.

靈香草: Ling (spirit) hsiang (fragrant) ts'ao (plant): Ling heung ts'o (Cant.): local name 'Ling heong chow'. J.R.; C.R. Alpha. 732.

This name is not given in the Pen ts'ao, showing that the drug is of recent introduction. Tatarinov, Smith, and Hosie give the name Ch'ang shan to this plant, probably after a mountain of the same name in Chihli. The name P'ai ts'ao hsiang is given by Stuart and Read to *L. sikokiana*, Miq., growing in the region of Lingnan, the former name for Kwangtung and Kwangsi. A specimen from Malaya of a light coloured root in slices is shown in the Museum of the Pharmaceutical Society.

The drug, consisting of leaves and stems, was imported from Canton. The entire plant is sold in the drug shops of Annam. The leaves have the peculiar odour of foenugreek seeds and are similar in character to those of Hance's species. Hosie says the roots of the plant, grown in Kwangsi, are used in medicine and perfumery and are valued at T. 4 a picul. Hance observed that the leaves were used by women to make a perfumed oil for the hair, and were also made into pills. Chewing the root is said to correct fetid breath.

245 and 246. **Magnolia officinalis,** Rehd. & Wils.

川樸: Ch'uan (Szechwan) p'u (Magnolia): Chu'en p'ok (Cant.): local name 'Choon pok'. The bark.

川樸花: Ch'uan p'u hua (flower): local name 'Choon pok fah'. The flower buds.

These two drugs represent the flowers and bark of a *Magnolia*. The flower buds were identified as those of *M. officinalis*, of which species Sargent records (*Plantae Wilsonianae*, i. 391) the

following interesting passage. 'The tree is specially cultivated in the Upper Yangtse provinces for flowers and bark which are largely used in medicine, and exported from Central and Western China to all parts of the Empire. Flowers are a medicine for women; bark makes a decoction for coughs, colds, and consumption.' These drugs are mentioned in the Pen ts'ao and by all subsequent writers including Bretschneider (iii. 316), Hanbury (Sci. pa. 266), Stuart, Read, Henry, and Hosie. Other species of *Magnolia*, such as *M. hypoleuca*, S. & Z., *M. obovata* and *M. Yulon*, Desf., are referred to as the origin of these products. On the other hand the Chinese name of the tree is applied to more than one plant. Dr. Henry observes that P'u used alone indicates *Celtis sinensis*, Pers., the bark of which has no value as a drug. *Magnolia* grows in the mountains, and *Celtis* in the plains. The flower buds, hou p'u hua, are an article of commerce (C.R. Alpha. 382), and are used for fistula ani and in preparations for female complaints.

The bark (chung p'i) is covered with small tubercles and little linear markings. That from Szechwan is deemed the best and is distinguished as Ch'uan p'u, the drug under notice. Barks from other provinces are called Pan p'u, Nao p'u, Ch'ai p'u, according to size and thickness. It is sold in large tight cylinders, 7 to 9 inches long and very thick. Wilson says the bark is valued at 1,000 cash per ounce. The specimen from Malaya is in thin, square, match-like sticks, showing on one side a tubercular surface and a brown fibrous liber on the other. The bark had lost most of its bitterness and aroma. It is a tonic and stomachic remedy, and is given in fevers.

247. **Magnolia Sprengeri,** Pampanini, *Subsp.* M. diva, *Stapf*, and other species. Magnoliaceae.

辛 川 花: Hsin (bitter) ch'uan (Szechwan) hua (flower): local name 'San yee fah'. Sin i, hsin i; Pen ts'ao; Tatar.; S. & T.; P.S.; Br. iii. 306; T. & M.; C.R. Alpha. 464; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The flower buds of the magnolias are an important drug in China and Japan. Hsin i has been referred to various species of the plant, as *M. conspicua*, Salisb., *M. obovata*, Thunb., and in Japan, to *M. stellata*, Max. A specimen of the drug from Malaya was submitted to Dr. Stapf, who was studying the Chinese species of Magnolia, and he pronounced the buds to belong to the plant at the head of this article, which is described and illustrated in *Bot. Magazine*, t. 9116. This species is found in Central China and part of Szechwan, and includes varieties of *M. denudata* and *M. conspicua*. They are handsome plants when in flower. The name given to them in the south is *Yin ch'un* (welcoming the spring) as the flowers appear at that

season before the leaves. The flower buds are gathered in Shensi and Chekiang for medicinal purposes, and are exported from Hankow and Kiukiang. The opened flowers are said to have no medical virtues.

The buds which came from Szechwan are about 4 cm. long, globular, pointed clothed with silky hairs, looking not unlike a small peach; they have a fragrant odour and bitter taste.

The drug is regarded as a powerful febrifuge. It is also made into a sternutatory powder as a remedy for diseases of the nose. Divested of the outer hairs, which are injurious to the lungs, the buds are chewed to purify the breath.

248. **Melia Toosendan,** Sieb. & Zucc. Meliaceae.

川楝子: Ch'uan (Szechwan) lien (melia) tzü (seed): Ch'uee ling tsz (Cant.): local name 'Choon lin chee'. Br. iii. 321; A.H.; C.R. Alpha. 251; Hanb. Sci. pa. 244; Pen ts'ao; Lour.; Tatar.; P.S.; St.; Hosie; Ph. Soc. Mus.

This tree is related to the Nim or Margosa tree of India (*M. Azadirachta*), of great value in domestic medicine. The fruit of the Chinese species is a fleshy globular drupe, about an inch in diameter, covered with a shining, thin, horny, yellowish-brown skin, within which, surrounded by dried pulpy matter, is a large stony endocarp furrowed longitudinally, and containing seven or eight cells of which not more than six are usually developed. Taste bitter.

The dried fruits come from Szechwan and are named after that province. It is also a Japanese drug.

The fruits are said to drive away infection; they are employed as a vermifuge and febrifuge. The root is also very bitter and given for cutaneous diseases.

249. **Mentha arvensis,** Linn., var. Labiatae.

薄荷草: Po ho (mint) ts'ao (herb): local name 'Pok ho'. C.R. Alpha. 1035; Pen ts'ao; Tatar.; P.S.; Debeaux; T. & M.; J.R.; Henry; Hosie; St.; B.E.R.; Wu po ho: the drug from Wu (Soochow).

The Peppermint plant grows almost everywhere, but the drug coming from Soochow is regarded as the best. It is cultivated much in gardens, and is used with other vegetables to give flavour. Peppermint has been used as a drug in China and Japan for at least 2,000 years.

The leaves of the plant are from Canton, the emporium of the Chinese menthol trade. They are ovate, hairy on the veins, and the stems are purplish.

The essential oil and menthol or peppermint camphor (Po ho ping, C.R. Alpha. 1033) are yielded in Japan by *M. arvensis* var. *purpurascens*, and in China by *M. arvensis* var. *glabrata*, Holmes.

The oil and menthol are not mentioned in the Pen ts'ao and must be regarded as of modern origin. They appear to have been described first by Gmelin in 1829.

The leaves and stems are made into infusion, and used as carminative, antispasmodic, and sudorific. Menthol produces local anaesthesia in cases of headache and facial neuralgia.

250. **Momordica charantia,** Linn. Cucurbitaceae.

苦瓜干: K'u (bitter) kua (gourd) kan (fruit): local Cantonese name 'Koo kwa kan'. Lai kua (leprosy gourd), Br. ii. 387; Pen ts'ao; Tatar.; Debeaux; P.S.; K'u kua kan; dried fruit in slices, C.R. Alpha. 629; K'u kua ti: peduncles, C.R. Alpha. 630; Henry; St.; B.E.R.; Sliced dried fruit in Kew and Ph. Soc. Museums.

This gourd is cultivated in the southern provinces, and probably has been introduced from countries south of China. When young the fruit is eaten as a vegetable, when old it is taken as a medicine. The fruit is green, oblong in shape, varying from two to five inches in length; red when ripe, and marked by rows of wart-like protuberances which give it a leprous appearance.

The drug sold in Singapore consists of the peduncles with more or less of the lower part of the fruit attached, as if the pulp had been removed; it is very bitter.

The fruit is regarded as tonic and cooling, but it is a drastic purgative when ripe.

251. **Momordica cochinchinensis,** Spr.: (*Muricia cochinchinensis,* Lour.). Cucurbitaceae.

木鼈子: Mu (wood) pieh tzü (seed): local name 'Mook pit tsze'. Muh pee tsze; Fan muh pee; Pen ts'ao; Cleyer; Lour.; Tatar.; P.S.; Hanb. Sci. pa. 231 (where the seeds are figured, Fig. 2); C.R. Alpha. 872; St.; B.E.R.; Mu hsieh, a name of the seeds, which are likened to a turtle or crab.

This gourd is a native of China and Cochin China; each fruit contains from thirty to forty seeds which constitute the drug.

The seeds are orbicular or obscurely triangular, compressed, tubercled at the margin, and having a dark brown, fragile, rugose testa, marked with depressed reticulations; in diameter they vary from $\frac{3}{4}$ to $1\frac{1}{4}$ in. The yellow cotyledons within are extremely oily.

The seeds are aperient and useful in the treatment of tumours and malignant ulcers, and of obstructions of the liver and spleen.

252. **Morus alba,** Linn. Moraceae.

桑白: Sang (mulberry) pai (white): Song paak (Cant.): local name 'Sang pak'. Sang kên pai p'i, Br. iii. 332; Tatar.; P.S.; J.R.; Hosie; Henry; C.R. Alpha. 1071; St.; B.E.R.; Ph. Soc. Mus.

The mulberry is probably the best known tree in China, and is frequent from the Great Wall southwards. There are several varieties of the tree, probably brought about by cultivation and the constant removal of the leaves for sericulture. All parts of the plant are used in medicine: the fruit, leaves, twigs, stems, root, and ashes of the wood. The root-bark seems to be most appreciated; it is exported from Canton and Amoy, and is met with in all the shops.

The drug consists of portions of a root the size of a goose quill; some are larger and sliced, showing a white fibrous wood and an orange-red bark. Pieces of the root occur without the bark, and short channelled portions of bark without the wood.

The root bark is a restorative, tonic, and astringent remedy chiefly in nervous disorders.

253. **Mylitta lapidescens,** Horan. Fungi—family unknown.

雷丸: Lei (thunder) wan (ball): Lui uen (Cant.): local name 'Loo yoon'. Lui hwan; lei huan. Br. ii. 379; iii. 353; Cleyer in 1682; Tatarinov in 1856; P.S.; T. & M.; St.; B.E.R.; Described by Hanbury (Sci. pa. 198–206; *Journ. Lin. Soc.* 1860). Hosie, in 'Szechwan Products'; C.R. Alpha. 699; 'Little man's bread'.

Specimens of this hypogaeus fungus are found underground in the valleys in Szechwan, Hupeh, and Shensi. They were supposed to be formed by thunder metamorphosing the subtle vapour or spirit (ling) of plants. They are, however, the result of the parasitic myxomycetes attacking the roots of certain trees and developing from their substance these tubercular bodies, which afterwards lead an independent though parasitic existence.

They are rounded bodies with black skin, very hard, grey or white within, varying in weight from a few grains to half an ounce. They occur in shops in thin round slices about half an inch in diameter. They have very little of any smell or taste.

The fungus is recommended in epilepsy, chorea, and other nervous affections of children and for destroying parasites in the skin.

254. **Myristica fragrans,** Houtt.: (*M. moschata,* Thunb.). Myristicaceae.

荳扣: Tou k'ou: local name 'Tow khow'. Jou (fleshy) tou k'ou. Br. iii. 58; Tatar.; P.S.; C.R. Alpha. 1314; St.; B.E.R.

According to Bretschneider Tou k'ou is the Chinese name for Cardamoms. Pai (white) tou k'ou the fruit of *Amomum krervanh,* and ts'ao (herbaceous) tou k'ou, the fruit of *Languas globosa.* The difference is that the latter are capsules containing the fragrant seeds, while the nutmeg is a solid nut, the inner substance of which is reticulated and mottled like the betel-nut. The first Chinese author who mentions Jou tou k'ou states that

it is brought by ships from foreign countries where it is called kakula, the Arabic name for cardamom.

Nutmeg is a well-known spice obtained locally in Malaya. Strangely, the Chinese do not use it much as a spice, but as a carminative, stomachic, and antispasmodic among medicinal remedies for children and the aged. It is stocked by all Chinese druggists from supplies obtained from Singapore and Penang.

255. **Nauclea sinensis,** Oliver. Rubiaceae.

勾行: Kou hsing: Kau hang (Cant.): local name 'Ngow thang'. Kou t'êng ('Hook creeper'); Henry, Hook. Ic. Plant. 1956; Br. iii. 185; Tatar.; P.S.; C.R. Alpha. 612; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This thorny climber grows in Honan, Shensi, Hupeh, and Kiangsi. The drug is collected in Hupeh, where the plant was found by Dr. Henry, and is exported from Canton, Wenchow, Foochow, and Hankow. *Uncaria rhyncophylla*, Miq. is quoted by Tsudsioka and Murai as the Japanese source of a similar drug. Tatarinov wrongly presumes the parent plant of the drug to be the same as that which yields Gambier extract or Catechu pallida. The Singapore supply is obtained locally and is also imported from China. It consists of short pieces of reddish-brown stems, with two opposite, sharp, stiff, recurved stipules, compared to fish hooks. The thorns have feebly astringent properties, and a decoction is employed in fevers and nervous disorders of children.

256. **Nelumbium speciosum,** Willd.: (*Nelumbo nucifera*, Gaertn.). Nymphaeaceae.

The Indian Lotus or Chinese Water Lily is a sacred plant growing in ponds and marshes. It is extensively cultivated from Persia to China and southwards to Australia, as well for its ornamental flowers as for its various useful properties. Nearly every part of the plant has a distinct name and economic use. In the Singapore collection no less than five drugs are supplied by organs of the plant. These are the seeds, or nuts, the germinating plumule, the stamens, the petals, and the root.

LOTUS SEEDS

石蓮子: Shih (stone) lien (lotus) tzü (seeds): local name 'Shak lin chee'. Lien shi, Br. ii. 395; iii. 295; Hanb. Sci. pa. 240; P.S.; C.R. Alpha. 726; St.; B.E.R.; Ph. Soc. Mus.

The nuts, or Egyptian beans, in shape and size resemble small acorns. They are elliptical, hard, and dry with a black testa and white farinaceous kernel. The Chinese name shih (stone) indicates their hardness. The seeds roasted and divested of their shells are a favourable article for dessert. Boiled or ground into flour the kernels form a valuable food and medicine.

LOTUS GERM

(257) 蓮心: Lien (lotus) chi (seed) hsin (heart or centre): locally called 'Lean chee sin'. Lien tsz'sin, Br. ii. 395; iii. 295; T. & M.; C.R. Alpha. 728; Lien i, St.; B.E.R.

This unusual drug is exported from Canton; and Mr. Burkill informs me that he has seen the Chinese preparing it in the Malay Peninsula. It is the plumule, caulicle, or germinating embryo of the ripe seed. They are small forked structures, yellowish in colour and bitter to the taste. A Chinese author, Lu Ki, says: 'In the centre of the seed is a small green hook (plumule) which is called *i* and is very bitter, whence the proverb, "bitter as the plumule of the lotus seed"'. The drug is given to reduce high fever, and is useful in the treatment of cholera, haemoptysis, and spermatorrhoea.

LOTUS STAMENS

(258) 蓮須: Lien (lotus) hsü (beard): local name 'Lin soo'. Br. iii. 295; Tatar.; P.S.; J.R.; C.R. Alpha. 721; St.; B.E.R.; Ph. Soc. Mus.

The carefully dried and yellow fragrant stamens, or 'beard', as they are called, are sold in Hankow and in South China. They are an astringent and diuretic remedy, and are used as a cosmetic. In Tonkin they are employed for flavouring and improving the appearance of tea.

LOTUS FLOWERS

(259) 仁蓮花: Yen lien hua: called locally 'Yen lin fah'. Lien hua, buds and expanded flowers used in medicine, Br. ii. 395; iii. 295; C.R. Alpha. 722; Ph. Soc. Mus.

The dried red petals of this flower constitute the drug. They are used as a cosmetic application to the face to improve the complexion (Stuart).

LOTUS ROOT

(260) 藕節: Ou chieh: Lien (lotus) ou (root) chieh (joint or section): Ngau tsit (Cant.): local name 'Lin ngow chih'. Lien ou, ou tsie (rhizome) Br. iii. 295; Tatar.; Ou p'ien (slices); C.R. Alpha. 923; St.

The creeping root, cut in sections, shows a series of chambers in the tissue concentrically arranged terminating at the joints. These dried slices of the root stock are imported from Canton, Amoy, and Hokkien.

Hosie says: 'The long white rhizomes resembling a string of sausages, each about a foot long and separated from the others by a constricting fibre. It is these constricting fibres which are used in medicine and are credited with the property of restoring

to health persons suffering from nervous exhaustion'. Their special action is regarded as haemostatic.

The flour of the root (Ou fen, C.R. Alpha. 924); Ngou fen (Hanbury, 240) is used as an arrowroot by the Chinese. It is given in diarrhoea and dysentery, and it is the base of a preparation called *San ho fen*, a diet for infants.

261 and 262. **Nepeta tenuifolia**, Benth. Labiatae.

荆芥: Ching chieh: 北荆芥: Pei Ching chieh: locally called 'King kai' and 'Pak king kai'. King kie (kiai), Br. iii. 65. Kiai is a generic name for mustard and other pungent plants. Ching chieh is a name applied to various labiate plants. Tatarinov, Stuart, and Hosie refer it to *Salvia plebeia*; Parker (of Canton) *Salvia, Origanum vulgare* and *Moslea lanceolata*, Max. Dr. Henry (*Chin. Pl.* 70) applies the name in Hupeh to *Phtheirospermum, Mosla, Elsholtzia, Melampyrum*. Under the same vernacular name the drug is known in Annam, and Regnault calls the plant the 'Calamint of Syria'. The flowering stems of these labiates are exported from Chin-kiang, Ningpo, and Hankow (C.R. Alpha. 175). Hosie valued the stalks at T. 1 to 3, and the flowers at T. 7 a picul. The Singapore specimens came from Hupeh and the flowering spikes and leaves were identified as those of the above specie of *Nepeta*. The plant is used for coughs and for cutaneous affections.

263. **Nephelium Litchi**, Camb.: (*Litchi chinensis*, Sonn.). Sapindaceae.

笫枝: Li chih: Mérat; Delens; Smith; Tatar.; Debeaux; Seeds, C.R. Alpha. 701; J.R.; St.; B.E.R.; Li chi seeds.

This fruit with its sweet and delicious pulp is sold throughout China as well as Cochin-China, and is an important article of commerce in Fukien and Kwangtung, whence it is exported in quantity after having been dried in the sun. The Chinese use the fruit largely as dessert; the outer part of the fruit is astringent, and the leaves are applied to bites of animals.

The seeds in the Malay peninsula are used by the Chinese as an anodyne and are prescribed in various neuralgic disorders and in orchitis.

264. **Nephelium Longana**, Camb. Sapindaceae.

龍眼花: Lung (dragon) yen (eye) hua (flower): Lung ngan (Cant.): local name 'Long gun fa'. Tatar.; P.S.; St.; B.E.R.; C.R. Alpha. 793; Parker.

Li chih nu (slave of the Litchi) is a name given to the plant because it is smaller than the Litchi. The leaves and flowers of the Longan tree are officinal, and are exported in small quantities from Canton (Br. iii. 285). The flowers are small, brown, and

hairy, mixed with short peduncles and portions of leaves. The drug is not mentioned in the Pen ts'ao, and must therefore be regarded as a comparatively modern medicine.

265. **Nervilia Fordii,** Schlecht.: (*Pogonia Fordii,* Hance: *P. pulchella,* Hook. f.). Orchidaceae.

正天葵: Chên (genuine) t'ien (sky) k'uei (mallow): local name 'Chin thin kai'.

K'uei is a name given to many plants, chiefly of the malvaceous order. Tung k'uei (winter mallow) has been referred to *Malva sylvestris* and *Abutilon indicum* (Br. ii. 105). T'u k'uei (hare's mallow) is said to be an Anemone, and in Japan *Eranthis Keiskii,* Franch. (Br. ii. 115). Stuart with some uncertainty discusses T'ien k'uei and T'u k'uei under Eranthis but his description seems to refer to a Malva-like plant. T'ien k'uei occurs in the Chinese Customs (Alpha. 1294) as an export from Canton, and is left unidentified. The Singapore drug was identified at Kew.

*Nervilia Fordii* is described in *Journ. Bot.* xxiii (1885), 247, and *Bot. Mag.* t. 6851. It occurs in the island of Hong-Kong and in the Lo fan shan mountains in the Canton province. It is named after Mr. Charles Ford, the Superintendent of the Hong-Kong Botanic Gardens. The leaves are the part used in medicine. They are 2 to 2½ in. in diameter, short stalked, orbicular, acute, deeply cordate at the base, with overlapping lobes, plaited by twelve strong nerves, sparingly clothed with cellular hairs.

266. **Nigella sativa,** Sibthorp. Ranunculaceae.

巨勝: Kü sheng.

The seeds of this plant are on sale in shops in Singapore. The small, black, triangular seeds have a pleasant odour of lemons and are largely used in India as a medicine and as a spice. According to Birdwood this drug is the Black Cummin of the Bible, the Melanthion of Hippocrates and Dioscorides, and the Gith of Pliny. Bretschneider remarks (iii. 216) under 'Kü sheng tsz',' the black kind of Kü sheng tsz', was identified by Maximowicz as a Nigella, although no species of this genus has been observed in China by botanists. The white (or yellowish) kind of Kü sheng seemed to belong to *Ixeris* or *Mulgedium* (Compositae)'. Porter Smith relying on Tatarinov identifies the Kü sheng tsz' with the seeds of *Sesamum indicum,* but Braun (Hankow Med.) states that the seeds exported from Hankow bear no resemblance to sesame seeds. There is no doubt that Nigella seeds are used in China and Malaya, and most probably are imported from Persia and India. Chu sheng tzu of the Customs (Alpha. 46) has been identified as the seeds of *Impatiens balsamina,* Linn.

267. **Oldenlandia Heynii,** G. Don. Rubiaceae.

丹草: Tan (red, elixir) ts'ao (herb): local name 'Tan chow'.

The herb is said to be collected locally as a drug in Malaya, but it is not a usual Chinese drug.

It is an annual slender herb, much branched with linear leaves, and varies from a straggling diminutive herb of 1 to 2 in., to an erect plant a foot high; the solitary filiform peduncles are usually one flowered.

*O. corymbosa*, Linn., not readily distinguishable from *O. Heynii*, is a plant that frequents cultivated fields at the end of the rainy season in India. It is mentioned in Sanskrit medical works and is considered a cooling medicine of importance in the treatment of fevers (*Pharm. Indica*, ii. 198).

268. **Ophiopogon japonicus,** Ker, and **Liriope spicata,** Lour.: (*O. spicatus*, Ker). Haemodoraceae.

麥冬: Mai tung: Mak tung (Cantonese and local name), short for Mai men tung. 'The root (tubers) resembles the kung mai (barley) whence the name mai (wheat or barley) men tung,' Br. iii. 104; Hanb. Sci. pa. 256–7, Fig. 12; Pen ts'ao; Lour.; Kaempfer; Cleyer; P.S.; T. & M.; J.R.; Henry; Hosie; St.; B.E.R.

This important drug appears to be afforded by at least two allied plants. *Liriope spicata* with large leaves, and *O. japonicus* a smaller plant with smaller leaves. These plants grow throughout China and in Mongolia and Japan. They are specially cultivated near Peking and in the province of Chekiang for their roots which are exported from Ningpo, Ichang, and Hankow. According to Hanbury the drug consists of cylindrical fleshy tubers from 1 to 2 in. in length, and from $\frac{1}{8}$ to $\frac{1}{4}$ in. in diameter, tapering at either extremity. They are of a pale yellowish-grey colour and translucent, soft, and flexible. A central ligneous cord runs longitudinally through each. They have a sweet and agreeable taste. These are presumably from *Liriope spicata*. The Singapore tubers are much smaller, not more than $\frac{3}{4}$ in. in length and $\frac{1}{8}$ in. in diameter. They have the same character of the larger root and the decoction similarly does not give the blue starch reaction with iodine. They are probably the roots of *O. japonicus*. The candied tubers are eaten as a medicine and are regarded as tonic and aphrodisiac. Porter Smith suggests that their action is analogous to that of squills as a pectoral tonic in coughs.

269. **Origanum vulgare,** Linn. Labiatae.

茵陳: Yin ch'en: local name 'Yan chan'.

Yin ch'en hao, is a name for *Artemisia capillaris* (Br. iii. 73). This is another instance of the identification of certain fragrant

Chinese plants being somewhat mixed. *O. vulgare* is quoted by Loureiro as a Canton drug under the name of King kie, but this name is applied to several other labiates (Br. iii. 65.) See *Nepeta*. The specimen came from Canton. The stems are purplish-brown with opposite leaves, clothed with glandular hairs, and having a thyme-like odour. The drug is said to have refrigerant properties.

270. **Oroxylum indicum,** Vent. Bignoniaceae.

千曾底: Ch'ien ts'eng ti: Ts'in ts'ang tai (Cant.): called locally 'Chin chang chee'.

The seeds of this tree are used in medicine. They are flat, thinly discoid, and light buff coloured. They are 2 in. broad by 1½ in., winged and translucent all round except at the base. When powdered they have a yellowish colour, a peculiar rancid odour and bitter and acrid taste. It is not known for what purpose they are used in Chinese pharmacy, but in India the seeds are called 'Damree' and are employed as a medicine for cattle (See *Agricultural Ledger*, No. 6. of 1898, by D. Hooper).

**Oryza sativa,** Linn. Gramineae.

Rice constitutes the base of much of the food consumed in China as it does in many other parts of the East, but certain varieties of specially prepared grains are used in medicine. From the Malay peninsula there are three forms of rice supplied as drugs.

271. 穀芽: Ku (cereal grain) ya (sprout): local name 'Kook nga', Br. ii. 335; P.S.; C.R.; St.; Ph. Soc. Mus.

Rice grains germinated and dried with their filamentous sprouts. Malted rice is used as a peptic, carminative and tonic, having much the same effect as germinated barley or malt.

272. 紅谷米: Hung (red) k'oh (guest) mi (rice): local name 'Hong kook mai'. Hung kang mi, T. & M.; C.R.

Mi is the common name in China for milled rice. Red rice is common rice soaked in infusion of sappan wood, the colour of which it absorbs. Hosie, however, informs us that 'Hung mi is rice dyed by being boiled with inferior meat to impart a fine red colour'. Red rice is used on ceremonial occasions for presenting to guests.

273. 山甲血: Shan (mountain) chiah (armour) hsuëh (blood): local name 'Sun kap hit'.

This name refers to the blood of the pangolin or scaly ant eater, an animal product used in medicine (C.R. Alpha. 1089). The specimen is that of dirty rice grains. Probably the rice is used as a vehicle for absorbing and administering the peculiar medicinal agent.

274 and 275. **Pachyma cocos,** Fries. Fungus, family unknown.

茯苓: Fu (China root) ling (spirit or fungus): Fuk ling (Cant.): local name 'Fook ling'.

赤茯苓: Ch'ih (naked or peeled) fu ling: Ch'ik fuk ling (Cant.): local name 'Chek fook ling'. This drug is mentioned by all writers on Chinese materia medica from the Pen ts'ao downwards. It is best described and figured in a paper by Curry and Hanbury published in the *Journ. Linn. Soc.* xxiii (1860) 94, and reproduced in Science Papers (200–206, 267). Br. iii. 350; Ph. Soc. Mus.

The drug occurs as large tuberiform bodies having a rough blackish-brown skin and consisting internally of a compact mass of considerable hardness and of a whitish colour, made up of mycelium, and insipid to the taste. It is sometimes called 'Indian Bread'.

The tubers are found with the roots of fir trees in Central and Western China. Abundant supplies of the drug come from Szechwan. Hosie observed that the fungus can be propagated by attaching slices of the growths to fresh cut pieces of fir wood which are then buried in the ground and covered over with sand. Stuart says Fu shen is the name for smaller tubers which cling to the roots. Shên mu is the portion of root of the fir tree encircled by the fungoid growth. Three forms of the drug pass through the Customs at Canton: Fu ling, the tubers (C.R. Alpha. 332); Fu ling p'i, the outer black wrinkled skin (Alpha. 333); and Shih fu ling, the white substance of the tuber from which the black skin has been removed. Each part has a medicinal value; even the unpromising looking outer skin is considered useful as a diuretic in dropsy.

276. **Pachyma hoelen,** Fries, after Rumph.
Fungus, family unknown.

朱苓: Chu ling: Chue ling, Cantonese and local name. Chu ling (pig's tubers), Br. iii. 352; Tuber Regium, Rumph. (*Herb. Amboy.*, xi. 123); Berkeley (*J. Pr. Lin. Soc.*, iii (1859), 102); Hanb. Sci. pa., 269; Debeaux; Tatar.; P.S.; Cleyer; J.R.; T. & M.; Hosie; St.; B.E.R.; C.R. Alpha. 214, 874; Ph. Soc. Mus.

These tuberiform bodies are parasitic on the roots of the Feng tree, *Liquidambar formosana*, Hance, beneath which they are picked up in the spring and autumn. They are black lumps resembling pig's excrement, and are smaller and less regular in shape than the preceding drug, *P. cocos*. They are covered with a black, more or less shrivelled cuticle, which closely invests a homogeneous yellowish-brown substance or mycelium which gives no reaction for starch with iodine. The sample from

Malaya is in thin circular slices of a very light brown or whitish colour from which the outer black portion is removed. The fungus is produced mostly in Honan, also throughout Western and Central China, and is exported from Hankow, Tientsin, Ichang, and Canton. It is valued at T. 5 a picul. It is used as a food and medicine, and many fanciful virtues are attributed to it.

277 and 278. **Paeonia lactiflora,** Pall. (1773): (*P. albiflora*, Pall. (1789): *P. officinalis*, Thunb.). Ranunculaceae.

赤芍 : Ch'ih (red) shao (paeony): Ch'ik cheuk (Cantonese and local name).

白芍 : Pai (white) shao (paeony): Pak cheuk (Cantonese and local name). Pen ts'ao; Tatar.; Debeaux; Lour.; P.S.; T. & M.; Br. ii. 403; iii. 52; Henry; Hosie; C.R. Alpha. 143, 1112; St.; B.E.R.; Ph. Soc. Mus.

The name Shao yao for these drugs is probably generic. There are two kinds of plants described in the Pen ts'ao; one with red flowers Mu shao yao yielding the Ch'ih shao root; and the other with white flowers, Chin (gold) shao yao, yielding the pai shao. The paeony grows wild in Anhuei, Honan, and Szechwan, and is cultivated in Kiangsu and mountains in the north of China. The roots from Malaya are so different in structure that they are possibly afforded by separate plants.

The Ch'ih shao from Anhuei is in thin longitudinal slices of a woody root, 10 cm. long by 3 cm. broad; they are fibrous in structure, brown in colour, and tied up in bundles. Bretschneider says Ch'ih shao is exported from Tientsin and Newchwang.

Pai shao from Hongchow and Shanghai is in hard heavy pieces, tapering, of the size of the thumb, and from four to six in. long, or cut into oval, transverse slices. It is pinkish white in colour, somewhat translucent, showing on the outside the remains of a few scars and tubercles. Sir Alexander Hosie says both kinds of root are exported from Szechwan; the dried roots of the cultivated red flowered variety are valued at T. 2 a picul, while pai shao is valued at T. 5 a picul.

These drugs are much prized by Chinese doctors who use them in tonic, alterative, and astringent medicines, and as a general remedy for diseases of women. They are also said to have a special action on the spleen, liver, stomach, and intestines.

279. **Paeonia suffruticosa,** Andr.: (P. *moutan*, Sims). Ranunculaceae.

牡丹皮 : Mu (male) tan (red) p'i (bark): Mau tan p'i (Cant.): local name 'Mow tan phee', Tatar.; P.S.; J.R.; T. & M.; Br. iii. 53; St.; B.E.R.; Hosie. In the Chinese Customs Reports

the root-bark (Alpha. 857), the root, tan kên (1242), and small rootlets, tan hsü (1241) are catalogued. Ph. Soc. Mus. Tan ken from Singapore.

The Tree Paeony or Moutan is a favourite garden plant of the Chinese, and it has been known from very early times. It is sometimes called Hua wang or 'King of Flowers', and Pai liang chin or '100 ounces of gold'. Bretschneider says it grows in the mountain valleys of Szechwan and Honan; it is also found in Manchuria and the North. The cultivated plant is of more value medicinally than the wild kind. The drug consists of the root bark, the sample of which came from Wu hu. It sells for T. 2 a picul and the best kind Pa tan hutan at T. 7 a picul. Mou tan erh, a fungus or excrescence which grows on the roots is valued at T. 5 a picul. The root bark is found in the shops in small quilled pieces, brown on the outside and purplish within. It has a warm pungent flavour and faint odour. As a medicine the root-bark is employed in colds, fevers, and nervous disorders. Continued use of the drug is said to give vigour to the body and prolong life.

**Panax Ginseng,** C. A. Meyer. Araliaceae.

Ginseng is renowned among the Chinese as a drug of the highest value. The name Jen Shen or Man's Image is given to the plant because of the fancied resemblance of the root to the human form, and for this reason it is a panacea for all ills. It is collected from a plant about three feet high, twigs rayed, no branches, red near the root; it bears four to six leaves each with five ovoid divisions, pale green, reticulated, toothed, and serrate on the margin and having a petiole dilated at the base.

The best ginseng formerly came from the Kirin province of Manchuria, the cultivation and collection being a government monopoly, but the supply is now very rare. Korean ginseng is regarded as the best, but it is frequently adulterated with roots of other plants. In the wild state the plant reaches maturity in seven years, at this stage the roots are gathered and scraped with a bamboo knife, contact with iron being objectionable, they are then steeped in water, with or without sugar, and steamed, when they become transparent, and are dried. They have a yellowish or amber colour or are whitish and opaque. In the southern provinces the white root is preferred. In Kiangsu, Anhuei, and Hupeh, the red drug is favoured. The roots are from the thickness of a carrot to portions made up of the fibrous extremities. They have a sweetish taste like liquorice, while some samples are slightly bitter.

There are several sorts of ginseng recognized in the Chinese markets and in medical works. Three drugs in this category are in the Singapore collection.

280. 種粉先參: Chung fen hsien shen (ginseng): local name 'Fan kong sum'.

This is the root of the size of the little finger, light-brown, wrinkled longitudinally and transversely, lighter within, hard and woody in consistence. Taste mucilaginous. It agrees with samples of Korean Ginseng in the Kew and Pharmaceutical Society's Museums.

281. 麗參顏: Li shen (ginseng) hsü (beard): Lai ts'am so (Cant.): local name 'Lai sum soo'. Li an abbreviation of Kao li, i.e. Korea. Kao li shen, a medicine in the Customs List (Alpha. 554).

These are yellowish or amber-coloured rootlets, brittle, translucent, slightly bitter and mucilaginous to the taste. These are the fibrous or bearded extremities of the clarified root of Korean Ginseng, Br. iii. 3. They correspond with samples of Wild Chinese Ginseng from Peking (Yah shan shen, E. H. Wilson, *Ph. Journ.*, 8 July 1888), shown in the Ph. Soc. Mus.

282. 洋參: Yong (ocean or foreign) shen (ginseng): Yeung ts'aam (Cant.): local name 'Yong sum'.

This root has a similar appearance to Korean Ginseng. American ginseng is cultivated in the Appalachian Mountains in the Midland and Western States. According to Sir Alexander Hosie this foreign ginseng is imported in considerable quantities into Shanghai. In these consignments the roots are made to resemble the Chinese drug by freeing them from their epidermis, and making what is called in the Customs 'clarified ginseng'.

There are five shens mentioned in the Pen ts'ao, all of which hold a high place in Chinese pharmacology. Jen shen, *True Ginseng*, operates upon the spleen. Sha shen, white ginseng (*Adenophora polymorpha*) acts upon the lungs. Hsüan shen, black ginseng (*Scrophularia Oldhami*) acts upon the kidneys. Tan shen, red ginseng (*Salvia miltiorhiza*) operates upon the heart. Mou shen, purple ginseng (*Polygonum bistorta*) acts on the liver.

283. **Panax repens,** Max.: (*Aralia repens*, Max.). Araliaceae.

參葉: Shên (ginseng) yeh (leaves): called locally 'Sam yih', C.R. Alpha. 1130; Hosie, *Szechwan Plants*. Dr. Henry found the leaves of this plant being used as a drug in Szechwan where it is called San ch'i (meaning 'three seven'). In other parts of China this name is given to *Gynura pinnatifida*. The fragrant leaves of *Panax repens*, which came from Szechwan and Korea, are not unlike the leaves of true Ginseng (*P. ginseng*). Stuart remarks that the leaves of the latter are sold in bundles as a drug called Shên lu and are considered expectorant and emetic.

284 and 285. **Papaver somniferum,** Linn. Papaveraceae.

粟壳: Su k'o; 應蘇壳: Ying (jar) su (millet) k'o (capsule): called locally 'Yin soo hock'. K'o and su k'o are names of the capsules of the Opium Poppy (C.R. Alpha. 1539) Ying tzu su or 'Jar fruit millet', refers to the shape of the capsule and the millet-like seed, St.; B.E.R.

The plant was originally grown on account of its beautiful flowers, and both the young plants and seeds were used for food. Growing the poppy for the production of opium in the Central Provinces did not take place till about the middle of the nineteenth century, and in Szechwan it was introduced from India and Tibet about 1780 (Hosie). Poppy-heads are used for diarrhoea, dysentery, and all kinds of fluxes.

286. **Perilla nankinensis,** Decne.: (*P. arguta*, Benth.: *Ocimum crispum*, Thunb.). Labiatae.

紫酥: Tsê su: tsz so (Cant.): local name 'Tse soo', Su, Br. ii. 14; iii. 67; Tatar.; P.S. under *Lophanthus sp.*; T. & M.; J.R.; Hosie; Henry; C.R. Alpha. 1203; St.; B.E.R.; Ph. Soc. Mus.

This labiate occurs in Szechwan, Kiangsu, Kiangsi, and Kwangtung, and is cultivated in gardens throughout China, Japan, Annam, and Tonkin. The stem, leaves, and seeds are used in medicine, and are exported from Amoy, Chinkiang, and Canton. The dried plant came from Canton, and consists of the stems and leaves of a purplish colour and peculiar fragrance. The whole plant is used as a condiment in cooking. The stalks and leaves are given in medicine to benefit the lungs and alleviate coughs, also to act as a stimulating tonic to the alimentary canal. Under the name of kuei jen the seeds are fed to ducks. Perilla seeds yield by expression a valuable drying oil which is used as a varnish by painters on porcelain.

287. 丹穌子: Tan (red) su tzu (seeds): called locally 'Soo tsz'.

These are the seeds of the above and other species of Perilla, exported from Canton, Shanghai, and Ningpo. Pai (white) su tzü are the seeds of *P. ocimoides* of the Customs (C.R. Alpha. 1202). They are as large as mustard seeds with a reticulated surface and smooth scar at the lower end.

288. **Perilla sp.** Labiatae.

蘇更: Su keng: So kang (Cant.): local name 'Soo khang'.

This drug is obtained from Canton, and there is a local plant used as a substitute for it, which is not in the collection. It consists of sections, $\frac{1}{2}$ to $\frac{3}{4}$ in. across, of a woody stem, showing white wood, black bark, and distinct pith. The name of the drug refers to a Perilla, but the stem appears to be too thick and ligneous for an herbaceous plant.

289. **Peucedanum japonicum,** Thunb.: (*Ligusticum acutilobum*, Sieb. & Zucc.). Umbelliferae.

川芎: Ch'uan (Szechwan) hsiung: local name 'Choon koong.' Ch'uan kung, Br. iii. 47; Faber; Tatar. under *Rad. Levistici*; P.S.; J.R.; T. & M.; C.R. Alpha. 247; Mat. Chin. Pl. 95; Chang hoa me, Wilson; Hanb. Sci. pa. 260; Hosie; St.; B.E.R.; attributed to *Cnidium officinale*, Mak., *Conioselinum univittatum*, Turcz.; Ph. Soc. Mus.; Ganti (Malay); Senkiu (Japan).

The plant grows in Assam, China, and Malay Islands, and is much cultivated in Szechwan and Shansi for the fragrant drug. Perhaps more than one plant yields the root. Hosie gives the origin of Ch'uan hsiung as *Pleurospermum austriacum*, Hoff., but the root of this plant has a different odour. Siebold says its growth is similar to celery of Europe (*Apium graveolens*), with this difference that in China they develop the root, and in England the leaves. The drug is exported from Hankow and Canton. Nodular masses of the fragrant rootstock constitute the drug. They are 1 to 2 in. or more in diameter, having an irregular, rough brown outer surface and a pale yellowish-brown interior. The Malayan sample is in thin slices, showing the nodular structure of the rhizome, and with a strong persistent fragrance similar to celery. Ordinarily it is a cooling medicine for headache, but at times it is used in cases of difficult labour and as an application for ulcers and wounds.

290. **Peucedanum medicum,** Dunn, and probably other species. Umbelliferae.

信前胡: Hsin (new) Ch'ien hu: Sun ts'in oo (Cant.): local name 'Soon chin foo'. Ch'ien hu, ts'ien hu, Br. iii. 30; Pen ts'ao; Tatar.; Debeaux; P.S.; T. & M.; C.R. Alpha. 118; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This is an important drug of the Pen ts'ao Herbal, similar to Tu huo, obtained from plants growing in the Central and Western Provinces of China. It has been referred to species of *Peucedanum* and *Angelica* by previous writers, but from material supplied by Dr. Henry, the probable source of Ch'ien hu in the mountains of North and South Ichang in Hupeh and in Szechwan is *P. medicum*, Dunn, a species related to *P. terebinthaceum*, Fisch. (*J. Linn. Soc.* (*Bot.*) xxxv. 496). The drug is exported from Ningpo and Hankow, and Hosie valued it in Szechwan at T. 2·5 to 3 a picul. The Malayan drug came from Kwangsi and Foochow. It occurs in thin longitudinal slices of a light coloured root, shorter and more irregular than Tu huo, and with a less pungent and bitter taste. This drug, according to Porter Smith, is often sold under the name of Tang tu p'an or 'Number one artillery', for the successful attacking of disease.

291. **Peucedanum praeruptorum,** Dunn, and **P. terebinthaceum,** Fisch. Umbelliferae.

防風: Fang feng: local name 'Fong foong'. Br. iii. 31; C.R. Alpha. 292.

This root is an important Chinese drug, but there has been much confusion about its origin. Tatarinov and Porter Smith describe it under *Libanotis*. Bretschneider says that at Peking the name Fang feng is applied to *Siler divaricatum*, Benth. and Hook. f., and *P. rigidum*, Bunge. Regnault, following Loureiro, considers the root to be yielded by *Coreopsis leucorhiza*, a naturalized American plant. Dr. Henry says the officinal drug under this name, also called Ai feng, a contraction for Ai (cleft) fang feng, is obtained from *P. praeruptorum*, Dunn, a plant growing in Hupeh, Chang yang, and Szechwan. The proximity of this plant to rocks suggested the specific name (*J. Linn. Soc.* 35, 496–7). Hosie places Fang feng under *P. terebinthaceum*, an allied species. The botanical characters of these are so similar that Dr. H. Wolff, a specialist in the Umbelliferae, has renamed some sheets of *P. terebinthaceum* from China as *P. praeruptorum*. The roots are exported from Tientsin, Chefoo, and Newchwang.

The plant yielding this drug has been compared to fennel and is eaten as a pot-herb. The root is sold in long, brownish-yellow, irregularly branching pieces, having some of the stem attached to the rootstock. It is said to have a sweetish aromatic taste.

The drug from Singapore is in thin slices, 2 to 3 in. long by ½ in. broad, the root having been cut obliquely. The bark is light brown, marked with longitudinal and transverse fissures. The inner woody portion is white, and soft and spongy in consistence, traversed by long wavy fibres. The taste is somewhat bitter and pungent without odour.

The root is given as an eliminative remedy in catarrh, rheumatism, and diseases in which chills or damp have been encountered. A decoction allays profuse sweatings and is helpful in cases of poisoning by roots of aconite.

292. **Peucedanum sp.** Umbelliferae.

獨活: Tu (self) huo (moving): Tuk oot (Cant.): locally pronounced 'Took wooi'. The name is given to represent a delicate plant, always in motion, even in apparently still air. Br. iii. 32; Tatar.; P.S.; S. & T.; T. & M.; C.R. Alpha. 1364; Henry; Hosie; Wilson; St.; B.E.R.; Ph. Soc. Mus. Figured in Chih wu ming 21.

This fragrant drug is obtained in Tibet, Kansu, Szechwan, Korea, and Japan, and is exported from Hankow and Newchwang. The origin of the drug has been referred with reservation to three umbelliferous plants: *Peucedanum decursivum*, Max.; *Angelica grosseserrata*, Max., and *A. inaequalis*, Max. But

the source is not satisfactorily determined. Further investigations are needed to prove the identity of Tu huo and K'iang huo.

The root is probably a long tap root. The Singapore sample came from Szechwan. It consists of the root in thin pieces, ½ in. wide, sliced longitudinally; the outside is marked lengthwise and crosswise with ribs or striae, the interior is lighter, soft, and fibrous. It has a bitterish camphoraceous and pungent taste. It is prescribed as a stimulant, arthritic and antispasmodic; useful in fevers.

293. **Peucedanum sp.**

川 姜 活: Ch'uan ch'iang huo: Ch'uen keung oot (Cant.): called locally 'Keong woot'. K'iang huo, ch'iang huo, Br. iii. 32; C.R. Alpha. 81.

This is an important drug, allied to Tu huo, mentioned in the Pen ts'ao kang mu. Tu huo is produced in China, but Ch'iang huo, means a plant allied to Tu huo that is produced in the country called Si Kiang which is Kukonor in Tibet. Another name for this drug is Ch'uan ch'iang, meaning Ch'iang huo produced in or brought through Szechwan. Sir Alexander Hosie refers to the roots being used in medicine under the names of Ch'iang huo and Ch'uan huo, with a value of T. 7 a picul. He says the drug comes from Eastern Tibet and is imported into China via Szechwan. The origin of the drug has not been definitely established. Dr. Henry (Br. iii. p. 80) states with reservation that in the Ichang mountains *Peucedanum decursivum*, Max., may be the source of one of the above drugs, and Dr. Read quotes *Angelica sylvestris*, L., but this has not been confirmed. K'iang huo is exported from Hankow and Ichang. The root is said to be darker in colour than Tu huo and is marked off into short internodes. The sample from Singapore unfortunately had been attacked by insects and its character destroyed. Its action is stated to 'cause perspiration'. These umbelliferous roots are administered as stimulants and antispasmodics (Stuart).

294. **Phellodendron amurense,** Rupr.: (*P. chinense*, C. K. Schneider). Rutaceae.

黃 栢: Huang (yellow) p'o (Thuja): local name 'Wongphaik'. Br. iii. 315; Hanb. Sci. pa. 266; Tatar.; J.R.; C.R. Alpha. 518; Henry; Hosie; Wilson; St.; Ph. Soc. Mus.

A tree of Manchuria and North China cultivated for its bark which is used as a dye and in medicine. Exported from Newchwang and Ningpo.

In the early days this drug was referred by Loureiro and Hanbury to *Pterocarpus flavus*, and this name was adopted by Tatarinov and P. Smith. In 1888 P. W. Squire described the

bark and its microscopical characters and called the origin *Evodia glauca*, Miq. Credit is due, however, to Dr. Henry and Mr. E. M. Holmes for having established the identity of the drug. Perhaps more than one species is concerned since the drug comes from Manchuria and also from West China. The best kind of bark is that from Hupeh.

The bark occurs in thin, rectangular slices, 1 in. broad by about 4 in. long, yellow and smooth. It is bitter to the taste, and contains the alkaloid berberine. Loureiro was the first to record its properties as resolvent and vulnerary and as a yellow dye for silk. It is a universal domestic medicine. Wilson remarks that it is the 'poor man's cure-all' being employed externally and internally for almost every ailment.

295 and 296. **Phragmites communis,** Trin.: (*P. Roxburghii*, Kunth: *Arundo phragmites*, Linn.). Gramineae.

蘆荻根: Lu ti ken: Cantonese and local name 'Loo tik kan'.

郎古根: Lang ku ken: Cantonese and local name 'Long koo kan'. Lu: common reed; lu ken: the root; lu sum: the sprouts, Br. iii. 94; P.S.; T. & M.; Henry, Chin. Pl. 253; C.R. Alpha. 768; St.; B.E.R.; Ph. Soc. Mus.

This reed is common in the north of China where it takes the place of the bamboo of the southern provinces. The root and sprouts are exported as medicines from Canton.

The Singapore samples were obtained locally and consist of the root and lower portion of the stem of the plant. The first specimen is as thick as a quill, light yellow, solid, in short pieces with nodes about 12 mm. from one another. The other is thicker broken up, and fibrous. There is no taste or aroma in either drug. It is probable that the second sample is a local substitute for the officinal drug, since the term lang is applied to a useless grass. The root of this reed is regarded as cooling and diuretic. The tender sprouts are slightly bitter and are used as a food and medicine.

297. **Phyllanthus sp.** Euphorbiaceae.

黑面神: Hei (black) mien (face) ch'en (spirit): Hak min shan (Cant.): local name 'Haik mean san'.

This sample consists of sliced branches of a shrub with a few leaves. The leaves correspond with those of a *Phyllanthus* related to *reticulatus*. The Chinese name is that of a commercial article (C.R. Alpha. 366) which Matsumura identifies with *P. Emblica*. The same vernacular name is given to a drug (wood and bark) used in Annam. Debeaux and Stuart record the use of the leaves of *P. urinaria* among the Chinese as a diuretic and sudorific.

298. **Picrorhiza Kurroa,** Royle. Scrophulariaceae.

胡王連: Hu wang lien: Oo wong lin (Cantonese and local name). Hu huang lien, P.S.; St. under *Barkhousia repens*; C.R. Alpha. 482; Henry; B.E.R.

This plant is distributed in the Alpine Himalayas eastwards. The root is a foreign drug introduced into China from the west. Wu is the old name for Kiangsu, the geographical source of Coptis root. Hu lien and Hu huang lien are names given to this drug because it resembles Coptis in appearance and bitterness. It reaches China by way of Thibet and Szechwan.

The rhizome is of the size of a goose quill or smaller, the lower portion covered by a shrivelled, greyish-brown, corky bark, and marked by scars, the remains of rootlets; towards the upper end it becomes larger ($\frac{1}{4}$ in. in diameter) thickly set with dark, greyish-brown scales. Generally broken in short pieces 1 to 2 in. long; fracture short, black internally, cross section resembling the eye of a bird; no odour, but very bitter in taste. The root contains a bitter glucoside wax and fatty matter (*Pharmacographia Indica*, iii, 10). The drug is a favourite remedy for bilious dyspepsia accompanied by fever.

299. **Pinella tuberifera,** Tenore, and other species. Araceae.

半夏: Pan (half) hsia (summer): Pun ha (Cant.): called locally 'Poon hai'. Br. iii. 150; Pen ts'ao; Tatar.; P.S. under 'Midsummer root'; Sang pwan hea (Sheng pan hsia), Hanb. Sci. pa., 262, Fig. 16; C.R. Alpha. 975; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

This aroid is widely distributed in China and Japan. It is found in the northern and central provinces, notably Szechwan, Shensi, Shantung, and Kiangsu.

The tubers are like small white balls, about 10 mm. in diameter, flattened on the top. On the flattened side is a depression around which are a number of pits. There are two kinds in the market. The crude or raw tuber (Sheng pan hsia) are white and brittle, the fracture showing a uniform mass of starchy cellular tissue. The starch is rounded or oval and associated with needle shaped raphides. Fah pan hsia is the name of the prepared tubers after they have been soaked in water and dried. These are brownish and translucent and somewhat irregular in shape. Sometimes they occur in the market in thin slices. In a fresh state the drug is diaphoretic and emetic, and poisonous in large quantity. The prepared tubers are given in fever and rheumatism and are considered active in removing phlegm.

**Pinus sinensis,** Lam. Coniferae.

The Sung or Chinese Pine occurs in the mountains of Central and Western China, and at lower levels in Northern China and

Korea. Two drugs are obtained from the tree: the resin and pine knots.

300. 松香: Sung (pine) hsiang (fragrance): Ts'ung heung (Cant.): local name 'Choong heong'. Br. iii. 301; Hanb. Sci. pa. 270; Pen ts'ao; Cleyer; Tatar.; Parker; Debeaux; P.S.; C.R. Alpha. 1211; St.; B.E.R.

Bretschneider says the resin is produced in Shantung and is exported from Swatow and Amoy. Dr. Henry records its trade in the Hankow market. It is also a Japanese product. The resin is pale yellow, terebinthinate in odour, and has a vitreous fracture. It is used for skin eruptions, ulcers, and indolent wounds.

301. 松節: Sung (pine) chieh (knots): Ts'ung tsit (Cant.): local name 'Choong chih'. Br. iii. 301; C.R. Alpha. 1210; P.S.; St.; Sample from Singapore in Ph. Soc. Mus.

These excrescences or hardened woody knots or joints of the pine branches are exported from Amoy and Canton. The local supply, brought from China, is in the form of yellowish shavings of close-grained wood with the odour of pine. Stuart says they are used in decoction for colds, rheumatism, toothache, and vomiting.

302. **Piper longum,** Linn.: (*Chavica Roxburghii*, Miq.). Piperaceae.

蓽茇: Pi po: local name 'Pit poot'. Pen ts'ao; Tatar.; P.S.; Debeaux; J.R.; T. & M.; St.; B.E.R.; C.R. Alpha. 1008. Pi po li, from Sanskrit pippala.

Long pepper of the Indian Archipelago is principally imported from India. The spice consists of the spiked fruits about an inch long, cylindrical, pedicellated, dark grey or black. The taste is hot, pungent, and aromatic.

Long pepper is a stimulant and tonic; it relieves flatulence and arrests vomiting and dissipates phlegm.

Pi p'o mu is another product of the plant. The name is an imitation of the Hindustan word, Peepla mul. This is the root of a pepper with weaker qualities than those of the fruit.

303. **Piper nigrum,** Linn. Piperaceae.

胡椒: Hu chiao. Tatar.; Debeaux; P.S.; St.; B.E.R.

Black pepper or Lada hitam; white pepper or Lada puteh (Malay).

The Chinese import considerable quantities of pepper from the Indian Archipelago. Zanthoxylum fruits and capsicum are so plentiful and less expensive than black pepper that they are more generally used as a spice. Pepper is considered an energetic stimulant, diaphoretic and carminative.

304. **Piper sp.** Piperaceae.

魯子: Lu tzü (seed): local name 'Loo chee'. In the Customs Report (Alpha. 782) there is a drug with a similar name, but the word Lu has the character of the common reed (*Arundo*) (Br. iii. 94). The fruit is that a species of pepper imported from Canton. It is used as a remedy for gonorrhoea. A similar specimen is in the Pharmaceutical Society's Museum.

305. **Pistia stratiotes,** Linn. Araceae.

浮萍: Fou (floating) p'ing (water plant): local name 'Fow phing'. Br. iii. 198; Pen ts'ao; Lour.; Tatar.; Debeaux; P.S.; J.R.; C.R. Alpha. 327; Henry; St.; B.E.R.; Ph. Soc. Mus.

Two or three water plants are confused under the names of Fou p'ing and Shui (water) p'ing in the Chinese Herbals. Dr. Henry found the sample of fou p'ing from Hong-Kong in the Pharmaceutical Society's Museum to be *Pistia stratiotes*. This is Loureiro's identification, and it is confirmed in this sample from the Malay Peninsula. Shui p'ing. Dr. Read, Regnault, and Tatarinov refer this to the small *Lemna minor*, and an intermediate sort is a *Limnanthemum*.

The Water Soldier is cosmopolitan in the tropics. The dried plant is an article of export from Canton and Amoy and is available in shops in South China, Malaya, and Cochin China.

The whole plant has long been employed in ancient prescriptions. It is applied to boils, syphilitic eruptions, and in many skin complaints.

306 and 307. **Plantago major,** Linn. Plantaginaceae.

車前草: Ch'e (cart) ch'ien (track) ts'ao (plant): called locally 'Chea chean chor'. Ch'e ts'ien, Br. ii. 439; iii. 115; Pen ts'ao; Lour.; Tatar.; Debeaux; P.S.; T. & M.; J.R.; Henry; Hosie; St.; B.E.R.; C.R. Alpha. 35.

The Greater Plantain or Ribwort is widely distributed as a common weed by the wayside and in fields. It is eaten as a pot-herb, and the expressed juice is taken as a medicine. The plant was considered a styptic and vulnerary by ancient writers, and is still an article of commerce in Chinese ports and drug shops.

(307) 車前子: Ch'e ch'ien tzü: Ch'e ts'in tsz (Cant.).

The seeds are exported from Newchwang, Hankow, and Kiu kiang. They are minute, black, oval, or oblong, compressed, with a whitish scar in the centre of one side. They are insipid and have an oily smell when crushed. Soaked in water they become coated with a translucent mucilage.

The seeds are a remedy for diarrhoea and dysentery; they are pectoral and demulcent and are thought to be favourable to child-bearing. The seeds enter into the composition of liang fen, a jelly used in the summer (Dr. Henry).

308. **Platycodon grandiflorum,** DC. Campanulaceae.

吉更: Chieh (luck) keng (change): Cantonese and local name 'Kat kang'. Kie keng, Br. iii. 6; Tatar.; P.S.; C.R. Alpha. 9; Henry; Hosie; St.; B.E.R.

This is a common plant in mid-China; it grows to a height of a foot or more and bears small blue flowers. In *A naturalist in Western China*, by E. H. Wilson, a photograph is given of a field of these plants under cultivation. The root is collected for the market in Anhuei, Chili, Hunan, Hupeh, and Szechwan, and is exported from Chinkiang, Chefoo, Wuhu, and Tientsin. The root is said to be as thick as a finger, of a yellowish-white colour. The drug has been described as dark brown pieces of the root, shrivelled and wrinkled. The specimen from Singapore is in thin longitudinal slices of a light brown, parsnip-like root, 7 in. long, 1 in. at the top, tapering down to a $\frac{1}{4}$ in. It has no special odour or taste, and appears to be simply mucilaginous. Saponin has been separated from the Japanese root. The drug is said to be tonic and carminative, and is sometimes fraudulently substituted for ginseng. An extract obtained by boiling the rootstock is a common remedy for coughs and chill in the stomach.

**Plumeria acutifolia,** Poir.: (*P. obtusa*, Lour.).
Apocynaceae.

This delightfully scented flowering tree is cultivated in India, Siam, Java, Seychelles, and the Philippine Islands. In China it grows in Hong-Kong, Yunnan, and Formosa. Dr. Hance suggested some years ago that this milky, fragrant plant is of American origin, since there is an absence of any mention of the plant in Chinese works. It appears to have been introduced into India by the Portuguese from Brazil, as it is usually planted in the churchyards by native Christians in order that it may deck the graves with its white deciduous flowers which are produced almost all the year round.

The tree is known as the Jasmine Tree, also 'Frangipani', from Frangipanier of the French. It is the 'Flos Convolvulus' of Rumphius (vi. 43) and is called 'Champa' in Bombay.

Three samples of the dried flowers of this tree were sent under the following names:

309. 鷄蛋花: Chi tan hua: Cantonese and local name 'Kai tan fah'.

310. 靈消花: Ling hsiao hua: local name 'Leen seiw fah'.

311. 毛菇: Mao ku: local name 'Moo koo'.

Chi tan hua is the name given by Tatarinov, Porter Smith, and Parker to the flowers of *Plumeria*. The meaning is 'Fowl egg flower'. The corollas are red coloured and salver shaped, with the lobes overlapping to the left. The tube is 1 cm. long and the obovate lobes are 3 cm. long by 1·5 cm. broad. In India the flower buds are eaten with Betel leaves as a febrifuge. The medicinal use of the flowers in China is not recorded, but the drastic, purgative, and even poisonous nature of the juice of the bark has been observed by several writers.

The other vernacular names refer to different plants.

The second name corresponds with Ling siao hua of Bretschneider (iii. 170) and others, who identify the drug with the flowers of *Tecoma* (*Bignonia*) *grandiflora* (See *Campsis grandiflora*).

Mao ku is another mistaken identification. It is the name of *Amaryllis* (C.R. Alpha. 826) the flowers of which are said to be efficacious in urinary complaints. The Chinese name, meaning 'hairy tuber', refers to the roots being surrounded by a mass of tangled hairy rootlets. The dried flowers of *Plumeria* have a superficial resemblance to the flowers of *Gardenia* which are also used in medicine (Br. iii. 335).

312. **Polycarpaea corymbosa,** Lam. Caryophyllaceae.

白頭翁: Pai (white) t'ou (head) weng: local name 'Pak thow yoong'.

This drug is mentioned by Bretschneider (iii. 24) and Debeaux, who identifies it with *Anemone japonica*, S. & Z. Dr. Read also refers it to a Pulsatilla growing in Honan and Manchuria, and names it *A. cernua*, Thunb. The drug has also been referred to a Eupatorium. The fruit of the Pulsatilla with the long feathery tails of the seeds, and the fruits of Polycarpaea covered with soft down, both resemble the grey head of an old man, hence the name. *Polycarpaea corymbosa* is a small plant found in many parts of China and throughout India from the Himalayas to Ceylon. In India it is a drug administered externally and internally as a remedy for bites of venomous reptiles. It is found in the shops as flowering heads, arising from silvery cymes, with portions of the stem and tomentose leaves, and is used as demulcent and astringent. The herb with the roots of *P. arenaria*, Gagnep., is a drug of Indo-China (Ph. Soc. Mus.).

313. **Polygala Reinii,** Franch, & Sav. Polygalaceae.

巴吉: Pa (Szechwan) chi (luck): Pa kat (Cant.): local name 'Pai kit'. Pa chi t'ien, Br. iii. 15; C.R. Alpha. 926; B.E.R. under *Bacopa Monnieri*, Hay.; St.

This drug is mentioned in Pen ts'ao, but the description is not clear. Loureiro called the mother plant *Septas repens*, and Bentham *Herpestis Monnieri*. The plant grows in E. Szechwan, Hupeh, and Kiangsi, and in Japan. The drug is exported from Canton, and Swatow. It is in small, hard, curved pieces of root-bark, with the heart taken out, dark reddish coloured, and wrinkled outside and black within.

The root is considered warming and tonic. It strengthens the bones and sinews, quiets the five viscera, is tonic to the centres, increasing the will power and benefits the breath. In Malaya it is a kidney remedy.

314. **Polygala tenuifolia,** Willd. and **P. sibirica,** Linn.
Polygalaceae.

遠支: Yüan chih: Uen chi (Cant.): local name 'Yoan chee'. Br. iii. 16; Pen ts'ao; Tatar.; P.S.; J.R.; C.R. Alpha. 1557; Hosie; St.; B.E.R.; Ph. Soc. Mus.

These plants grow chiefly in Northern China and Japan; *P. tenuifolia* is sometimes called siao ts'ao (small herb) because it has smaller leaves than *P. sibirica*. The root, which is called Japanese Senega, is collected for the market principally in Shensi and Honan, and exported from Hankow and Tientsin. The Singapore samples came from Yunnan. The roots are somewhat larger than a writing quill, light brown, contorted and marked transversely. Sometimes they are quite tubular, the central woody portion having been removed, for this reason they are known as 'roots without pith'. The taste is sweetish and somewhat acrid. The roots are valued at T. 11 a picul. The drug is given as a substitute for senega in colds and coughs. It appears in the Taoist prescriptions for procuring long life, and is accordingly considered beneficial in all affections of the vital organ, the heart.

315. **Polygonatum falcatum,** A. Gray, and other species.
Liliaceae.

王精: Wang (royal) ching (essence): Wong tseng (Cant.): local name 'Vong ching'. In Malaya the Chinese name wang (royal) is sometimes changed into huang (yellow). Huang tsing (yellow ethereal essence), Br. iii. 7; Tatar.; P.S. under *Caragana*; St.; B.E.R.; C.R. Alpha. 514; Ph. Soc. Mus. sample from Singapore.

This is a mountain plant in China and Japan with leaves like a bamboo which with the flowers and fruit are edible. The root is highly valued by the Taoists who call it 'Food for the immortals'. Another name for the drug is 'Poor man's relief'. The root is prepared by steaming and drying, and is exported from Canton, Wenchow, and Ningpo. It is met with in shops in flat

pieces from 1 to 1½ in. long, having a greenish-yellow colour, with a varying degree of translucency and flexibility. The outer surface is marked with small circular cicatrices, tubercles, and transverse lines. The Singapore sample is reddish-black, soft, sweet, and mucilaginous to the taste. The drug is chiefly tonic and constructive in its properties.

316. **Polygonatum officinale,** All., and other species. Liliaceae.

玉竹: Yü (jade) chu (bamboo): Yuk chuk (Cant.): local name 'Yook chook'. Br. iii. 8; Hanb. Sci. pa. 255, under *Bambusa arundo*, Nees; C.R. Alpha. 1547; Pen ts'ao; Lour.; P.S.; Henry; St.; B.E.R.; Ph. Soc. Mus.

This drug, on account of its Chinese name, has been confused with the roots of the bamboo. Bretschneider, however, suggested the root of a *Polygonatum* as the source, and this has been confirmed by Dr. Henry, who places it as the root of *P. officinale*, 'Solomon's Seal'. Jade bamboo is common in the mountains of North China, and the root is exported as a medicine from Chefoo and Hankow.

The drug is pale yellow or brown, in semitranslucent, twisted pieces, pretty evenly jointed, and varying in size, length, and hygrometric condition. The taste is sweetish and mucilaginous, and odour like that of newly-baked bread. In water the roots swell up to their original dimensions, three or four times as thick as in the dry state. Frequently they are sliced longitudinally in thin strips.

The drug has cooling, demulcent, tonic, and antiperiodic properties.

317. **Polygonum aviculare,** Linn. Polygonaceae.

扁速: Pien (plate) hsü (beard): local name 'Pin chook'. Pien chu, Br. ii. 54; iii. 127; C.R. Alpha. 1022; Tatar.; P.S.; St.; B.E.R.; This name is sometimes given to *P. hydropiper*, Linn.

A plant of N. Asia and Europe. This small knot grass or goose grass with red stems and joints, often covers the ground. The stems are numerous, branching in every direction, generally prostrate, round, striate, leafy at the knots or joints. Leaves hardly an inch long.

The whole plant is used in medicine and is exported from Swatow.

It is demulcent, pectoral, astringent, tonic, and diuretic. It is used in Malaya for gonorrhoea. Stuart says this knot grass is used for itching affections of the skin and for piles.

318. **Polygonum multiflorum,** Thunb. Polygonaceae.

首烏: Shou (head) wu (crow): Shau oo (Cant.): local name 'Sow voo'. Ho shou wu, Pen ts'ao; Tatar.; P.S.; where the drug is referred to *Tylophora ovata*, Hook. (*Apocynum juventas*, Lour.); St.; B.E.R.; A.H.; C.R. Alpha. 376, 1166; Hosie; Ph. Soc. Mus.

A creeper with small white flowers and reddish stems. The root is collected in Kiangsu, Kwangtung, Hupeh, Szechwan, and Fukien.

The drug occurs in reddish-brown slices, about 2 in. across, of a tuberous root, showing a crenated outline, with black wrinkled edges. The interior has a rufous tint, and is hard and woody, with a slightly astringent taste. It is labelled 'Earth nut from Szechwan'.

Fabulous stories are told in the Pen ts'ao of the powers of this root: to give long life, increase vigour, and promote fertility. It has tonic, vulnerary, and antiscorbutic properties. In Malaya it is administered to women after confinement.

319. **Polygonum sp.** Polygonaceae.

蓼刀竹: Liao (smart weed) tao (knife) chu (bamboo): Liu to chuk (Cant.): local name 'Liew kow chook', St. Small knotted roots with brush-like rootlets.

320. **Polypodium sp.** Filices—Polypodiaceae.

千年貝: Ch'ien (1,000) nien (years) chien (to see): Ts'ien nin kin (Cant.): called locally 'Chin nin keen'. C.R. Alpha. 899; Br. iii. 203; P.S.; A.H.; St. 346; B.E.R.; Ph. Soc. Mus.

The drug consists of transverse slices of a fern rhizome, about $\frac{3}{4}$ in. in diameter, reddish-brown in colour, showing the light coloured vascular bundles. It is not easy to define its correct botanical source.

Read mentions a root called Chin hsing ts'ao, and refers it to *P. hastatum*, Th., a fern of Southern and Western China. Stuart identifies the drug as the root of the sporulating form of *P. lingua*, Sw. The fronds are 2 to 3 ft. long, with star-shaped spore cases on the back arranged in pairs. The fronds and the root are used to reduce carbuncles and scrofulous glands. 'Nien chien' is stated by Porter Smith to be an anti-rheumatic remedy (See *Cyclophorus*).

321. **Polystictus sanguineus,** Fries. Fungus—Polyporaceae.

紅菇: Hung (red) ku (fungus): local name 'Foon koo'.

Bretschneider gives Ling chi (divine chi) another name for this agaric. Chi is a plant of immortality. There are six kinds enumerated, according to their colour, including ch'i (red) chi;

tan (cinnabar) chi, which grows in Hunan. The taste is bitter, non-poisonous. Br. ii. 41; iii. 266. (See Murrill, *Trop. Polyp.* p. 51.)

Many sorts of fungi exhibiting various colours at different stages of growth are described at great length in the Pen ts'ao. They are said to be magical in their effects in certain diseases and confer longevity. Porter Smith refers to the drug under *Polyporus ignarius*; it passes the Customs (C.R. Alpha. 731) as a medicinal fungus.

Hosie notices Ch'a ku, a rare kind of fungus used in medicine for its exceptionally nourishing and delicate qualities. It is said to grow only in the province of Kiangsi and costs as much as Tls. 5 a catty.

322 and 323. **Poncirus trifoliata,** Rafinesque: (*Citrus trifoliata*, Linn.: *C. fusca*, Lour.: *Aegle sepiaria*, DC.). Rutaceae.

枳實: Chih (orange) shih: local name 'Tsee sat'.

枳橘: Chih (orange) ko (peel): local name 'Tze hoch'. Chi; Chi shi (the fruit), Br. ii. 488; iii. 334; Chi shi (unripe fruit) Chi koh (ripe fruit) P.S.; Chih shih (small fruit), Chih k'o (large fruit), Hosie; Hanb. Sci. pa. 238; C.R. Alpha. 133, 137; Pen ts'ao; Lour.; T. & M.; J.R.; S. & T.; St.; B.E.R.; Hosie; Ph. Soc. Mus.

This very thorny species of orange has been removed by Swingle from the genera *Citrus* and *Aegle* (*Plantae Wilsonianae*, ii. 149). It is cultivated for hedges; and its small fruit varying from the size of a cherry to that of a walnut, is characterized by its thick, firm, almost woody skin. It grows in Szechwan, Shansi, and Kwangtung, and is widely distributed in Cochin-China. The unripe fruit is cut in half or sliced and sun dried. The drug is exported from Foochow and Hankow.

The above two drugs came from Szechwan and both occur in thin transverse slices. That called Tsee sat is about $\frac{3}{4}$ in. in diameter, including the thick skin, pulp, and seeds; the other called Tze hock is about 2 in. in diameter with thick skin and no central portion. The fruit dried before maturity is said to be more active. The drug is bitter and aromatic and is used in making stimulating cordials.

324. **Potentilla cryptotaenia,** Max. Rosaceae.

仙孝草: Hsien hsiao ts'ao: local name 'Sin hock choo'.

This probably is the same as an unidentified drug in the Customs Alphabetical List 451, where it is called Hsien hao ts'ao, 'Fairy Crane herb'. *P. cryptotaenia* is a plant growing in the provinces north of the Yangtse. It is 1 to 2 ft. in height, taller than most species of Potentilla, and has brownish stems

and ovate serrate leaflets, more or less hairy. The drug consists of the broken stems and leaves. Stuart says the root of this plant is officinal, and is called Lang ya, because it resembles the tooth of a wolf or other animal. It is prescribed in Feng diseases, for foul ulcers and intestinal worms.

325. **Potentilla sericea,** Linn.: (*P. multicaulis*, Bunge). Rosaceae.

柴草: Ch'ai ts'ao (herb): local and probably Cantonese name 'Tse chow'.

This is a variable species of Potentilla widely distributed in temperate Asia and North America. The drug is made up of the roots of this small plant with portions of the stem attached, and the leaves covered with silvery hairs. Debeaux alludes to a drug called Fan pe ts'ao as a species of Potentilla, and says the entire plant is used as an astringent. Dr. Read and Stuart refer Han pai ts'ao to *P. discolor*, Bge. and give *P. cryptotaenia*, Max., (Lang ya, 'Wolf's tooth') and *P. Kleiniana*, Wight (She han) as sources of allied drugs. According to Regnault *P. reptans*, L. is known in Annam for its astringent root.

326. **Prunella vulgaris,** Linn. Labiatae.

洛吟草: Lo han ts'ao (herb): local name 'Look ham chow'. Hia ku ts'ao (plant withering in the summer); T'ie ts'ao (iron coloured plant, as it soon loses its freshness), Br. iii. 80; Lour.; Debeaux; Tatar.; J.R.; P.S. under *Lophanthus*; Cavalerie; A.H.; St.; B.E.R.

The Self Heal, Heal All, or Carpenter Weed is a common plant of Europe and America. About a foot high, it has square stems, stalked ovate leaves, and dense spiked heads of purple flowers. The drug consists of the flowering tops and parts of the stems, and is exported from Ningpo and Canton.

The Self Heal is used for fevers and cough in China, and is antirheumatic, alterative, and tonic. It was highly commended in old herbals for its vulnerary properties, but it is not now held in much repute.

327. **Prunus armeniaca,** Linn.: (*Armeniaca vulgaris*, Lam.). Rosaceae.

淨北杏: Ching (pure) pei (north) hsing (apricot): local name 'Pak hang'. Br. ii. 471; iii. 271; C.R. Alpha. 466; T. & M.; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The apricot is regarded as indigenous in Mongolia, Manchuria, and Northern China; many cultivated varieties are found in the northern, central, and western provinces. The fruit, kernels, leaves, twigs, and roots are all officinal. The dried fruits are eaten to quench thirst and allay fever. Between 2,000 and 3,000

tons are exported a year, valued at T. 20 a picul, Germany being the chief consumer. Apricot and peach kernels are used in China instead of almonds; Tientsin, Chefoo, and Kiang being the main centres of the trade.

328. **Prunus japonica,** Thunb.: (*Cerasus japonica*, Loisel.). Rosaceae.

郁李仁: Yü (elegant) li (plum) jen (kernel): local name 'Yow lee yan'. Yü li, Br. ii. 474; iii. 340; Tatar.; P.S.; C.R. Alpha. 1551; Henry; Hosie; St.; B.E.R.

This is a small tree, six or seven feet in height, cultivated in many parts of China. The flowers are rose coloured, and the fruit is small and red, like a cherry, taste harsh and sour, edible, but not much used. The kernels are exported from Newchwang and Hankow, either dried or put up in some form of confection. They are small, oval, about 5 mm. long, light-brown, with the taste of bitter almonds. They are used in medicine as a demulcent and diuretic and in rheumatism and dropsy.

329. **Prunus Mume,** Sieb. & Zucc. Rosaceae.

烏梅: Wu (black) mei (plum): local name 'Voo mooi'. Br. ii. 473; iii. 272; P.S.; Henry; Hosie; St.; B.E.R.

Bretschneider identifies mei of the classics with the above species. The tree is found in mountain valleys in most provinces in China and is cultivated in Japan as an ornamental shrub as well as for its fruit. There are many varieties both wild and cultivated.

The drug from Singapore consists of the small, dried, dark coloured, acid fruits resembling plums. These are the fruits gathered half ripe and dried in the sun or smoked. Pai mei or white plums are the green ones pickled in brine and dried. The white, or salted plums, under the name of Ching mei are relished as a savory pickle, and are served at most Chinese feasts. They are exported chiefly from Canton. An infusion of the black plums is given in typhoid fever to relieve thirst. They are carminative, antifebrile, and antispasmodic. A decoction obtained by boiling dried plums in water is an ingredient in green dyeing (Hosie).

330. **Prunus persica,** Sieb. & Zucc.: (*Amygdalus persica*, Linn.). Rosaceae.

汀桃仁: Tao (peach) jen (kernels): local name 'Thow yan'. Br. iii. 273; Tatar.; Debeaux; P.S.; J.R.; T. & M.; C.R. Alpha. 1257; Hosie; St.; B.E.R.

The Peach is found wild and cultivated throughout China, which is believed to be its original home. There are many varieties. The flowers, bark, gum, and wood are used in medi-

cine, but the kernels are the chief commercial product, exported from Cheefow and Hankow. The kernels sold in Singapore are from a variety of peach called T'ing, probably named after T'ing chow, a prefecture in the south-west of Fukien. They are smaller than ordinary sweet almonds, oval in shape, the average size being 13 mm. by 9 mm. Peach kernels are used largely in confectionery. In medicine they are given for coughs, blood diseases, rheumatism, and ague.

**331. Prunus sp.** Rosaceae.

净肉仁: Ching (pure) nei (inside) jen (kernel): locally called 'Cheng noo yan' and 'Looi yan'. Jui ho, jui jen, sui jen, Br. iii. 338; Nei jen, C.R. Alpha. 896; Sui jen, C.R. Alpha. 1206; Fig. in Ch. xxxiii. 29; Tatar.; P.S.; St.; Kew and Ph. Soc. Mus.

These are the seeds of a small plum, with brown, corrugated, hard shell, pointed at one end, containing a kernel tasting of oil of bitter almonds. They are exported from Hankow and Ichang.

Stuart places this among 'Unclassified drugs found in the Pen ts'ao', where it is referred to as the fruit of a thorny shrub with drooping flowers. The kernel is nourishing, cooling, and sedative, and is used in the treatment of eye diseases, nose-bleeding, and constipation.

**332. Psoralea corylifolia,** Linn. Leguminosae.

骨子: Ku (tuber) tzü (seed): local name 'Khoo chee'. Pu ku chih; Pen ts'ao; Hanb. Sci. pa. 237; P.S.; J.R.; Hosie; C.R. Alpha. 1042; St.; B.E.R.; Bauchee seeds (India).

The plant is a native of India, and is met with in the south and west of China.

The small fruits may readily be mistaken for seeds. They are flat, oval or reniform, black, one-seeded legumes, 3–4 mm. long, and sometimes surrounded by the persistent 5-lobed calyx. They have an aromatic flavour. Their market value in China is from T. 8 to 10 a picul.

The drug is regarded as tonic and aphrodisiac, and is used in certain cutaneous diseases.

**333. Pteridium aquilinum,** Kuhn: (*Pteris aquilina*, Linn.). Filices—Polypodiaceae.

正决粉: Chên (pure) chüeh (fern) fen (flour): Ching k'uet fan (Cant.): local name 'Chen keat fang'. P.S.; Küe, Br. ii. 185; 377; Henry; Siebold; St.; B.E.R.; Shui chüeh is *Ceratopteris thalictroides*, Brongn.

The Brake or Bracken, as in Europe, is a common mountain plant, and grows all over China and Japan. In the Pen ts'ao several kinds of fern, not easily distinguished, are referred to as medicinal. Siebold in *Economic plants of Japan* speaks of the

ligneous root of Pteris being contused, washed in water, and the separated starch being cooked and eaten by the poorer classes in Japan. Dr. Henry observed that in Hupeh the mountaineers prepared a regular article of diet from the roots of this fern. In other parts of Central China the starch is eaten in times of scarcity in spite of its bitterness; the rootstocks are used in medicine. The specimen of starch sent under the above name is clean and white, and consists of rounded granules or with a triangular outline, and no hilum.

334. **Pueraria hirsuta,** Schneider (1907): (*Dolichos hirsuta*, Thunb. (1794): *Pachyrhizus Thunbergianus*, Sieb. & Zucc. (1846): *Pueraria Thunbergiana*, Benth. (1867): Sargent, *Plantae Wilsonianae*, ii. p. 118.

The Ko creeper is a plant much cultivated in China and Japan for its textile fibre and for its edible root. Wilson notices its cultivation by the Chinese in Pehang. This large climber is trained on trellis work and produces a tuberous root of a fusiform shape which attains 1 ft. or 18 in. in length and 5 or 6 in. in diameter. This is cooked and eaten, and when dried it is esteemed as a drug (Dr. Henry). The stems yield a fibre from which ko pu (ko cloth) is made, a so-called grass-cloth. The plant affords two drugs in this collection—flowers and root.

Ko flowers. 干葛花: Kan ko hua: local name 'Kon kot fah'. Ko hua, flowers of the Ko creeper, Br. iii. 174; C.R. Alpha. 599. The dried flowers or flower buds are of a light red colour and 1 cm. in length. They are exported from Ningpo and Canton. The Malayan sample came from Canton. The flowers are used as a diaphoretic and febrifuge.

335. Ko root. 干葛: Kan ko: local and Cantonese name 'Kon kot'. Ko ken, Br. iii. 174; Tatar.; P.S.; T. & M.; Henry (*Econ. Pl. of China*); St.; B.E.R.

From Canton and Foochoo and Ningpo are exported large tubers (Kan ko, C.R. Alpha. 600) and smaller tubers (Ko tou or ko ken, C.R. Alpha. 601). In Kiangsi and Hupeh a kind of arrowroot (Ko fen) is made from the root (see *Kew Bulletin*, 1889, 621; 1895, 47; 1896, 68). The Singapore sample is in the form of thin longitudinal sections of the fusiform root, 10 cm. long and 3 cm. broad at the centre. It is white and starchy. The starch grains are muller-shaped, or angular at one end and rounded at the other. They are destitute of marked hilum, and resemble the starch of Colchicum root (*Gard. Chron.*, Feb. 14, 1891, 211). The starchy roots are used in medicine; they are said to be thirst relieving, antifebrile, antiemetic, and counterpoisonous.

336. **Punica granatum,** Linn. Lythraceae.

石榴皮: Shih (stone) liu (pomegranate) p'i (peel): local name 'Shak liu phee'. An shih liu, Br. iii. 280; Pen ts'ao; Tatar.; P.S.; J.R.; Debeaux; T. & M.; C.R. Alpha. 1155; St.; B.E.R.

The pomegranate is cultivated throughout India and China. Bretschneider says the tree is not indigenous to China but was introduced from the west by the famous General Chang chien about 120 B.C. The fruit has a smooth, hard, coriaceous skin which, when the fruit is ripe, is of a soft yellow tint with shades of red. The reddish fruit, bursting open and revealing its numerous seeds, is compared to a grinning mouth showing the teeth. The drug consists of the dried pericarp or rind of the fruit. It contains tannin and the alkaloid pelletierine. The peel is exported from Canton, Amoy, and Shanghai. In medicine it is an astringent tonic and anthelmintic, especially for tape worms. The flowers and root are also used in medicine.

337. **Pyrola media,** Sw. Pyrolaceae.

鹿含草: Lu han ts'ao: local name 'Look khan chor'. Matsumura, *Chinese names of Plants*, 296; Henry; C.R. Alpha. 764; St. under *P. rotundifolia*; Lu t'i ts'ao is *P. elliptica*, Nutt., in Flora Sinensis of B.E.R.; Ph. Soc. Mus.

Wintergreen is found in similar localities in China to those occupied by it in America. The leaves and fruit stalks in this collection are those of *P. media*. They are said to be used as an expectorant and in pulmonary complaints. Stuart, referring to an allied species, *P. rotundifolia*, remarks that the plant is bruised and applied to wounds to staunch haemorrhage, it is also applied to bites of serpents, dogs, and insects.

338. **Pyrus cathayensis,** Hemsl.: (*Cydonia sinensis*, Thouin: *Chaenomeles sinensis*, Koehn.). Rosaceae.

木瓜: Mu (wood) kua (melon): local name 'Mook kwa'. Br. iii. 277; Pen ts'ao; Tatar.; P.S.; T. & M.; C.R. Alpha. 868; Hosie; Wilson; St.; B.E.R.; Ph. Soc. Mus.

The Quince is a native of Central Asia, and is cultivated in all temperate countries. The Chinese Quince is a distinct species and grows chiefly in the Yangtse provinces and in Japan. Mu kua kan, the sliced and dried fruit is exported from Szechwan and Hankow.

The drug, as it appears in commerce, is in dried, thick slices, the ripe fruit having been cut transversely, showing the seeds embedded in reddish, acid, and astringent pulp.

It is a popular remedy for all bowel complaints, also for nervous affections.

339. **Pyrus sinensis,** Lindl. Rosaceae.

雪梨: Hsueh (snow) li (pear): local name 'Soot lee'. Li kan (dried pears), li p'i (peel), Br. iii. 276; J.R.; Norman Shaw; P.S.; B.E.R.; Ph. Soc. Mus.

The pear has been known in China from very ancient times and is probably indigenous. Numerous varieties of the fruit are now cultivated; Manchuria, Shantung, and Shensi furnish the best kinds. In Peking there is a small roundish, light-coloured pear called pai li which is very pleasant, it is probably the 'snow pear' of this collection which came from Tientsin. The dried fruit and peel of Chinese pears are exported from Amoy and Canton, probably brought from North China, and are sent to Japan and Annam.

The Malay drug consists of the dried peel with portions of the pulp attached. The dried fruit and peel are used in dysentery.

340. **Quercus infectoria,** Oliver. Capuliferae.

沒石子: Mu (without) shih (stone) tzü (seed): Mut shek tsz (Cant.): local name 'Mook siak chee'. C.R. Alpha. 874; Hanb. Sci. pa. 267; Pen ts'ao; Tatar.; P.S. under 'Galls'; St.; B.E.R.; Laufer, *Sino-Iranica*, 367; Ph. Soc. Mus.

Galls are the globular excrescences caused by the gall wasp (*Cynips quercus-folii*) puncturing the twigs, leaves, and buds and depositing its ova in several species of oak in Asia Minor, Armenia, Syria, and Persia. The greater part of galls found in Indian and Chinese bazaars come from Persia brought by Arab merchants. The Sanskrit name majuphala comes from the Persian mazu, and the older Middle Persian form of the word occurs in the Chinese transliterations. The Persian name can be traced in the names for galls found in the Pen ts'ao, illustrating the foreign origin of the drug at that time. Hanbury speaking of Chinese galls says, 'They do not differ from the galls of *Q. infectoria*, Oliv., the common Aleppo galls of Europe mentioned as an import into China in 1514'.

Oak galls are spherical with a diameter of 1 to 2 cm., they have a smooth surface marked by small protuberances, and are of a dark olive-green to a yellowish-brown colour. They contain 50 to 60 per cent. of gallotannic acid. They are given in dysentery and chronic diarrhoea, and used as a mouthwash for children. (They must be distinguished from *Galla sinensis*, Wu pei tzu, the galls of *Rhus semialata.*)

341. **Quisqualis indica,** Linn. Combretaceae.

水君子: Shui chün tzü: local name 'Sooi kwan chee'. Hanb. Sci. pa. 232, Fig. 3; Pen ts'ao; Rumph.; Lour.; Tatar.; P.S.; J.R.; C.R. Alpha. 1145; Hosie; St.; B.E.R.

Burma Creeper; Liane vermifuge (Mauritius); Belimbing hutan (Malay).

The creeper is abundant in Malaya, Annam, India, and Burma, and in the provinces of Canton, Fukien, and Szechwan.

It is said that a famous physician Kuo shih chun made a speciality of treating children's diseases and extensively used this drug for the purpose; therefore it was given his name. In the Moluccas the seeds have long been held in repute as an anthelmintic. In 1833 Dr. Oxley and Mr. Gordon of Singapore (*Calcutta Med. and Phys. Trans.*, vii. 488) recommended these seeds as useful in cases of lumbrici.

The fruits are about 1 in. in length, oval or oblong, pointed at either extremity, and sharply pentagonal. The woody pericarp is thin, fragile, and of deep mahogany colour, and encloses an oily seed. The seeds are still given in medicine chiefly in cases of lumbrici in children, when four or five seeds, bruised and given with honey or jam are sufficient to expel the worm.

342. **Raphanus sativus,** Linn. Cruciferae.

萊菔子: Lai fu tzü: local name 'Loh fook tsz'. Lai fu; lo po, Merat; P.S.; Debeaux; Lour.; C.R. Alpha. 688; St.; B.E.R.; Br. ii. 39; Lobac (Annam); La phug (Tibet).

The Mongols call it Laopang, lobin, and turma. The latter name is derived from the Persian turup, whence turnip and other napiform roots.

The Radish is generally cultivated and is often found in a wild state. It is sometimes called 'a cabbage with violet flowers and long root'. The seeds are used in medicine in India and China. They are greyish-red in colour, irregularly oval with pitted surfaces. Radish seeds are considered to be expectorant, peptic, diuretic, carminative, and corrective.

343. **Rehmannia chinensis,** Libosch., and **R. glutinosa,** Steud. Scrophulariaceae.

生地: Sheng-ti: Shang ti (Cant.): local name 'Sang tee'. A contraction of Sheng (fresh) ti (earth) huang (yellow); Kan (dry) ti huang, Br. iii. 100; Tatar.; Gauger; P.S.; T. & M.; C.R. Alpha. 1264; J.R.; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The plant is common in North China. It is probable that more than one species of the plant yields the drug. *R. lutea*, Max., is depicted in So moko as a Japanese medicinal plant. The root is the part collected for the market, and is sold either in a fresh state or specially prepared. In the latter case the root is washed and cleaned in boiling water and allowed to dry in the sun. It is dark coloured, soft, wrinkled, more or less flattened, 2 to 5 in. long, having a sweetish, fruity taste. It is exported chiefly from Tientsin and Hankow. The sample from Malaya is in slices.

Earth yellow is a cooling and purifying drug, acting directly in the blood as an alterative and tonic. The fresh drug is naturally more active than the soaked and dried root.

344. **Rheum officinale,** Baill., and **R. palmatum,** Linn. Polygonaceae.

大黃: Ta (great) huang (yellow): Cantonese and local name 'Tai wong'. Huang liang (yellow excellency) Ch'iang ch'ün (captain general), Br. iii. 130; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 1225; Debeaux; St.; B.E.R.; Hosie; Ph. Soc. Mus.

The Chinese appear to have been acquainted with the properties of rhubarb from a period long anterior to the Christian era, for the drug is treated in the Herbal Peking which is attributed to the Emperor Shennung, the father of Chinese agriculture and medicine, who reigned about 2700 B.C.

*R. officinale* grows at 7,000 ft. over the mountain ranges between the Han and Yangtse rivers. This furnishes the rhubarb of Shensi, Hupeh, and Szechwan (Henry). The drug is exported from Hankow.

The root from Kansu, south of Mongolia, derived from *R. palmatum* is exported from Tientsin (Br.; Hosie.) The root is dug up from plants six or seven years old, in the spring, when the plant is in bud. It is peeled or trimmed, cut in slices, bored in the middle, and hung up to dry. The root is in firm, thick yellow slices, variegated or mottled. The Singapore drug came from Szechwan.

The root is a general eliminant and tonic. Stuart says purgative properties of rhubarb are not made so much of by the Chinese as they are in the west.

345. **Rheum sp.** Polygonaceae.

生軍片: Sheng (raw) chün p'ien (slices): Shang kwan p'in (Cant.): local name 'Sang kun pin'.

This drug consists of slices of a root apparently of a kind of rhubarb. The colour is reddish-brown with streaks of a yellowish colour, and the odour and taste are those of rhubarb. Bretschneider, Smith, and Stuart refer to local or native sources of this drug, but the above vernacular name does not help in classifying it.

346. **Rheum sp.** Polygonaceae.

水葵: Shui (water) k'uei (mallow): local name 'Sooi kwai'.

The Chinese name has been given to the leaves of *Althaea rosea* and *Hibiscus esculentus* (T. & M.), to *Limnanthemum nymphoides* and *Brasenia peltata* (St.).

The leaves from Canton resemble those of a Rheum. They are vivid red in colour, with pinkish hairs on both surfaces. They appear to secrete some acrid volatile body as the paper envelope in which they were kept was in a rotten condition.

347. **Rhus semialata,** Murray: (*R. javanica,* Linn.: *R. chinensis,* Mill.). Anacardiaceae.

五子: Wu tzü: Ng tsz (Cant.): local name 'Ng phoo chee'. Wu pei tzü, the galls, Hanb. Sci. pa. 266; C.R. Alpha. 1466; Pen ts'ao; Cleyer; P.S.; St.; B.E.R.; Henry; Hosie; Wilson.

The red gall tree (Fu mu) grows in China, Japan, and the Himalaya and Khasia mountains. The galls are formed by the punctures and deposited ova of *Aphis chinensis* on the leaves and leaf stalks of this tree. Probably other species are concerned since Hosie refers to *R. hypoleuca,* Champ., as a gall tree of Szechwan, and *R. punjabensis* also supplies galls.

These Chinese galls are hard, oblong, hollow, contorted bodies, about 1½ in. long, irregularly shaped, and tubercled; the outer surface is velvety and light brown in colour, the thin wall is translucent and the interior smooth. They contain from 70 to 80 per cent. of gallotannic acid.

They are largely exported for dyeing and tanning purposes, in recent years the demand has been greater than the supply. The Chinese use them medicinally as an expectorant and astringent, and they are applied topically to swellings and wounds.

348. **Rhus vernicifera,** DC.: (*R. vernix,* Thunb.) Anacardiaceae.

淨乾漆: Chen (pure) kan (dry) ch'i (lacquer): Tsing kon ts'at (Cant.): local name 'Chin kon chut'. Kan ts'i (dried varnish) Br. iii. 318; C.R. Alpha. 62; Henry; Wilson; St.; B.E.R.

The Chinese or Japanese lacquer or varnish tree grows in mountainous districts in Shensi, Hupeh, and Szechwan, and in Japan. The crude varnish is obtained by incisions of the stem, and is coloured with various pigments and used to fabricate those works of art so well known and esteemed in European countries. The pure dried varnish is exported from Canton. It is found in the shops in hard, black, shining, resinous pieces, insoluble in water. When used for medicinal purposes it is pulverized and given as a tonic for coughs and intestinal worms.

349. **Ricinus communis,** Linn. Euphorbiaceae.

蓖麻子: Pi (louse) ma (hemp) tzü (seed): local name 'Pee mah chee', C.R. Alpha. 990; Pen ts'ao; Tatar.; Debeaux; P.S.; T. & M.; E. Watson; St.; B.E.R.

The castor oil plant is cultivated in China for its shade, as an ornamental plant, and for its seed and leaves which are used in medicine. It is regarded as of foreign origin, having been introduced from Tartary where it is extensively grown.

The seeds are compared to, and named after, a species of tick which infests cattle in China. They are oval, curved, or com-

pressed, grey, shining, and striped or mottled with blackish or reddish-brown stripes or spots on the outside. Castor seeds are obtained locally in Singapore. They contain about 40 per cent. of the acrid and purgative oil upon which their properties depend. The Chinese use the crushed seeds as medicine more frequently than they do the oil, the paste is applied to relieve scrofulous sores.

**Rosa laevigata,** Mich.: (*R. hystrix*, Lindl.). Rosaceae.

Bretschneider mentions several species of rose, the fruits, flowers, leaves, and roots of which are used in medicine. The above species is found all over Central and Southern China and affords two of the drugs received from Singapore; the fruits and roots.

350. 金英子: Chin (gold) ying (water pot) tzü (seed): Kam ying tsz (Cant.): called locally 'Kim ying chee'. Ying shi, Br. iii. 171; P.S.; T. & M.; J.R.; Hosie; C.R. Alpha. 166; St.; B.E.R.; Ph. Soc. Mus.

The fruits (from Kwangsi) are about 1 in. in length, oval, red, and hairy. They are shaped like a water-bottle, hence the name. Within the capsule are small hairy seeds somewhat aromatic. The seeds are carminative, astringent, and diuretic.

351. 英根: Ying (jar) ken (root): Ying kan (Cant.): local name 'Kim ying keen'. The root is an article of commerce, C.R. Alpha. 169. Hosie says the drug is worth about T. 2 a picul. The root occurs in thin slices about 1 in. in diameter, with a dark reddish-brown bark. Mr. Boodle, upon an examination of the sections, suggests that it is not the root of a rose, but rather that of a *Tetracera* (Dilleniaceae). Rose root is bitter and astringent and is used in the preparation of wine; it is regarded as a tonic and anthelmintic. The leaves are considered a good vulnerary.

352. **Rosa multiflora,** Thunb. Rosaceae.

千金子: Ch'ien (1,000) chin (gold) tzü (seed): Ts'in kam tsz (Cant.): local name 'Chin kam chee'. Ts'iang wei, Br. iii. 171; Ch'iang mi (wall rose), Fo ch'ien hsiao (Buddha sees it and smiles) are names given for the above and the allied species, *R. indica*; St.; Wilson; B.E.R.; Ph. Soc. Mus.

This species of rose grows throughout China, especially in Kwangtung and Hupeh, and is distributed in Japan and the Philippine Islands.

The fruits are globular berries, dark brown to black, 8 mm. in diameter, with the rounded scar of the calyx above, and each

berry with a thin pedicel attached; within are a few seeds imbedded in yellowish hairs.

The fruits are used as an application to wounds, sprains, injuries, and foul ulcers.

353. **Rubia cordifolia,** Linn. Rubiaceae.

茜根: Ch'ien (madder) ken (root): Sai kan (Cant.): local name 'Sai kin'. Ts'ien ts'ao; ti hsüeh (earthblood), Br. iii. 182; Tatar.; Debeaux; P.S.; C.R. Alpha. 126; J.R.; T. & M.; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus. Munjit (India), Manduchaka (Sanskrit), Akam (Japan).

The Indian madder plant is found in India, Ceylon, Malacca, and Japan to Tropical Africa. In China it grows in shady mountain valleys in the northern, central, and western provinces. The root is exported from Hankow, and is valued at T. 5 a picul.

Indian madder is a red coloured root about the thickness of the little finger and tapering to a point. In the drug shops it is sold in thin longitudinal slices. It is chiefly used in China and Japan for dyeing a dark red colour, but its place is now being taken by artificial dyes. In medicine it has a certain reputation for its tonic, alterative, and astringent properties.

354. **Rubia sp.** Rubiaceae.

人骨丹: Jên (man, human) ku (bone) tan (red, elixir): local name 'Yin khoot tan'.

These are pieces of thin stems with loose white, translucent epidermis. This is a characteristic of the stems of species of Rubia. Botanical specimens of Chinese plants show a resemblance to this drug. No information is given as to the use of these stems in medicine, nor is any reference found regarding a vegetable substance being called 'Elixir of or for human bones'.

355. **Rubus sp.** Rosaceae.

福盆子: Fu (turns over) p'ên (bowl) tzü (seed): Fuk p'un tsz (Cant.): local name 'Fook phoon chee'. Pen ts'ao; Tatar.; P.S.; J.R.; C.R. Alpha. 335; T. & M.; St.; B.E.R.

The Chinese raspberry is found in the uplands of the central and western provinces, where there are about sixty species. These plants are found in Japan, where also the dried unripe fruits are collected for medicinal use. The Singapore sample came from Yunnan. An 'overturned basin', the meaning of the Chinese name, describes the appearance of the small fruits. Dried raspberries are supposed to benefit respiration, give vigour to the body, and prevent the hair from falling off. They have tonic, restorative, and aphrodisiac properties.

356. **Salvia miltiorhiza,** Bunge. Labiatae.

丹參: Tan (red) shen (ginseng): Taan ts'am (Cant.): local name 'Tan seng'. Br. iii. 20; Pen ts'ao; Tatar.; P.S.; J.R.; C.R. Alpha. 1246; Hosie; St.; B.E.R.

This plant is common in Mid China and the Peking mountains. It is a hairy plant with square stems, three to five foliate leaves, and bears spikes of violet flowers.

The root is one of the five astral remedies (Wu shen) which are thought to correspond to the five colours—yellow, white, black, purple, and red, and to the five principal viscera: spleen, lungs, kidneys, liver, and heart. This particular one belongs to the heart, and its red colour suggests blood. It is credited with alterative, antispasmodic, tonic, and vulnerary properties. Tan shen is exported from Hankow, Chefoo, and Tientsin. The Singapore sample came from Anhuei. The root is in short shrivelled pieces of a light brick-red colour, sometimes branched or twisted and with a few radicles. The interior is soft and has a sweetish taste.

357. **Sanguisorba officinalis,** Linn.: (*Poterium officinale*, Benth. & Hook. f.). Rosaceae.

地榆: Ti (earth) yü (elm): Ti yue (Cant.): local name 'Tee yee'. Ti yü (ground elm), Br. iii. 19; Tatar.; P.S. under *Hedysarum*; C.R. Alpha. 1273; J.R.; A.H.; St.; B.E.R.; Specimen from Singapore in Pharm. Soc. Mus.

The Lesser Burnet is a British plant, and grows in Honan, Hupeh, Kiangsi, Manchuria, and the Korean Archipelago. The root is officinal and is exported from Canton.

The drug is sold in thin slices, oval or oblong in shape, 1 in. or more in diameter, with a dense texture, reddish-brown colour, and an astringent and bitter taste.

The root is used in promoting the fermentation of liquors. In medicine it is employed as a styptic and vulnerary remedy. The mountain people substitute the leaves for tea.

358. **Sapindus mukorossi,** Gaertn.: (*S. abruptus*, Lour.). Sapindaceae.

木思子: Mu huan tzü: Muk wan che (Cant.): local name 'Mook wan chee'. Wu huan tzu, P.S.; J.R.; C.R. Alpha. 865; Henry; Wilson; Shaw; St.; B.E.R.

This soap-nut tree is plentiful in Central China, Northern India, and has been introduced into Japan.

The berries are soft, of a greenish-brown colour, the size of a cherry, reniform, with a heart-shaped scar on one side. The fruits are used as soap and contain about 10 per cent. of saponin. The round, hard, brown seeds are called 'Bodhi seeds'. They

are made into necklaces, and Buddhists wear them as rosaries. Soap nuts are employed by goldsmiths for cleaning jewellery. They are supposed to remove tan and freckles from the skin, and a solution of the fruits is a remedy for cutaneous diseases.

359. **Sargassum siliquastrum,** Agardh. Algae—Fucaceae.

海草: Hai ts'ao: Hoi ts'o (Cant.): local name 'Hoi chow'. Hai ts'ao (seaweed or sea vegetable). Br. iii. 200; Tatar.; P.S.; St.; B.E.R. Sample from Singapore in Ph. Soc. Mus.

The above name is also used for other seaweeds and their preparations, limited to marine algae. The Malayan specimen came from Tientsin; it is dark brown or dark red in colour and consists of stalks with oval fronds about 1 in. in length and minute air bladders. It is probably one of the forms of sea vegetable exported largely from Ningpo and Canton. One is a Sargassum with fine capillary leaves like horse-hair, called ma wei (horse tail) ts'ao; the other has large leaves and is probably a Laminaria. In Singapore the fronds of the latter are called Hai tai (Sea ribbon) (See *Laminaria.*).

360. **Saussurea Lappa,** C.B.Cl.: (*Aucklandia Costus*, Falc.: *Aplotaxis Lappa*, Dec.). Compositae.

木香: Mu (wood) hsiang (fragrance): Muk heung (Cant.): local name 'Mook heong'. Br. iii. 54; Hanb. Sci. pa. 257; Cleyer; Tatar.; P.S.; J.R.; T. & M.; C.R. Alpha. 860; Henry; St. under *Aplotaxis auriculata*, DC.; B.E.R. under *Rosa Banksia.* Kew and Ph. Soc. Mus. Kushta (Sanskrit); Kust (Arabic and Persian); Putchuk (Bengal).

This fragrant root has been known in China for several centuries, and writers have usually alluded to it as coming from foreign countries. Arabian Costus is a root gathered in the mountains of Kashmir and exported to the Punjab whence the larger portion goes to Bombay and is shipped to ports on the Red Sea, Persian Gulf, and China. It is also brought to Calcutta and bought up with avidity, under the designation of Putchuk, for the China market. The Singapore drug came from Canton. The drug has a pungent, aromatic taste and an odour resembling that of orris root or violets. It occurs in dry, brown, broken pieces. It is used as a perfume, and incense, and to preserve clothes from the attack of insects. As a medicine it is carminative and stimulant. There is a native Putchuk called Ts'ing mu hsiang in Ningpo referred to *Aristolochia recurvilabra*, Hance. Dr. Henry states (in Hooker's *Icones. Plant.* t. 1975) that *Inula racemosa*, Hook. fil., is cultivated in the mountains of Hupeh as a substitute for Putchuk.

361. **Schizandra chinensis,** Baill: (*Kadsura chinensis*, Turcz.). Magnoliaceae.

**五味子**: Wu (five) wei (taste) tzü (seed): local name 'Ng mee tse'. Br. iii. 164; Pen ts'ao; Tatar.; Siebold; P.S.; C.R. Alpha. 1477; Hosie; St.; B.E.R.; Ph. Soc. Mus.

The above species of *Schizandra* is very common in the Peking mountains and produces the drug in the north of China. *Kadsura chinensis*, Hance, seems to afford it in the southern provinces. In Japan the same Chinese name is given to *K. japonica*. These plants are climbers with yellowish-white flowers, and fruits, red or black when ripe.

The fruits are called 'the drug with five tastes or flavours'. The skin and pulp are sweet and sour, the kernels are pungent and bitter, the whole drug has a saltish taste. They are exported from Newchwang, Ningpo, and Tientsin. The fruits or berries are small, wrinkled, red, and reniform; imbedded in the dark-coloured acidulous pulp are two yellowish-brown, curved seeds, acrid and bitter. The fruit contains a viscid material with which Japanese women dress their hair. Tonic, aphrodisiac, pectoral, and lenitive properties are ascribed to the drug. The plant is believed to contain the quintessence of the five elements as the basis of its properties.

362. **Scrophularia Oldhami,** Oliver. Scrophulariaceae.

**元參**: Yüan (black) shen (ginseng): local name 'Joon sam'. Yüan or huan shen (dark ginseng), Br. iii. 18; Cleyer; Tatar.; Hanb. Sci. pa. 255; P.S.; T. & M.; C.R. Alpha. 1563; J.R.; St.; B.E.R.

This plant grows in Anhuei and the north and north-western provinces. The root is greenish-white and succulent; when dried it becomes purplish black and sweetish to the taste. It is exported from Ningpo and Hankow. The drug from the Malay shop is like the black skin of the root, removed by scraping 'the adherent brown cuticle' noticed by Hanbury'. It was at first supposed to be ginseng refuse (Shen sui, C.R. Alpha. 554), but true ginseng root is light coloured, and besides the Chinese characters are those of the drug called 'Black ginseng'. Like the true ginseng root it is considered a potent restorative; preparations of this root specially acting on the kidneys.

363. **Scutellaria macrantha,** Fisch., and other species. Labiatae.

**黃琴**: Huang (yellow) ch'in: local name 'Wong sam'. Huang k'in, Br. iii. 27; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 513; J.R.; T. & M.; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

Chinese Scullcap is a common plant in China, Japan, Korea, Mongolia, and Siberia. The Japanese root is said to be supplied

by *S. lanceolaria*, Miq. The drug is exported in considerable quantities from Tientsin, Chefoo, and Hankow.

The root is pale yellow, spongy, slightly bitter, and mucilaginous. It usually occurs in bundles of thin longitudinal slices, showing thick wavy fibres.

The drug is a tonic for the bladder, quieting the pregnant uterus, and stimulating the respiratory organs. A famous tonic is made by combining this root with rhubarb and coptis root; it is called San huang wan (Three-yellow-pill).

364. **Selaginella involvens,** Spring: (*Lycopodium circinale*, Thunb.). Selaginellaceae.

卷柏: Chüan (scroll) pai (cypress): local name 'Koon phaik'. Chüan po, küan po (curled inward *Thuja*), Br. iii. 211; Tatar., under *L. hygrometricum*; P.S. under *Lycoperdon*; C.R. Alpha. 1438; Henry; St.; B.E.R.; Ph. Soc. Mus.

This curious plant is common on the Peking mountains and in Mid-China, where it grows in damp places among stones. The young fronds are curved inwards like the toes of a bird or like a miniature Thuja or Cypress tree. The fronds are contracted when dry, and are of a yellowish-brown colour, but expand and assume a fresh green colour when placed in water. The Malayan drug comes from China, and a substitute is collected locally. The drug is prescribed in coughs, prolapsus of the rectum, gravel, and old peoples' complaints. As the plant never seems to die it is considered to have the property of prolonging life.

365. **Sisymbrium Sophia,** Linn. Cruciferae.

亭蔴仁: T'ing li yen (kernel): local name 'Tien theng yan'. T'ing li, Br. ii. 78; iii. 114; Lour.; Tatar.; P.S.; J.R.; C.R. Alpha. 1307; St.; B.E.R.; Ph. Soc. Mus.

The name T'ing li is given to various cruciferous seeds belong to the genera Sisymbrium, Draba, and Lepidium. The Tim li of Loureiro is referred to the watercress (*Nasturtium palustre*, DC.). Regnault says Lie is the name for seeds of *S. atrovirens* used by the Annamites. Japanese sources of the drug have been identified as the seeds of *Arabis perfoliata*, L. and *Draba nemoralis*, L. Bitter and sweet varieties of the seeds are exported from Shanghai and Hankow. The seeds from Singapore, small, yellow, pungent, were examined microscopically by Mr. Boodle and were found to be similar to those of *S. Sophia*, and differed from those of *Draba*, *Nasturtium*, and *Capsella*. The drug is regarded as demulcent, laxative, and febrifuge. It is interesting to find in China a remedy of repute mentioned in British Herbals. Parkinson (1640) Dodoneus, Lobel, Gerard, and Hill (1756) speak of 'Sophia Chirurgorum' (*Wisdom of the Surgeons*), the Flixweed or Fluxweed, and extol its virtues in the treatment of 'divers disorders and accidents'.

366. **Solanum dulcamara,** Linn., and other species.
Solanaceae.

茄根: Ch'ieh (Solanum) ken (root): K'e kan (Cant.): local name 'Khea kan'. Ch'ieh chih, C.R. Alpha. 100, 101; Tatar.; P.S.; J.R.; Br. ii. 79; St.; B.E.R.; Ph. Soc. Mus.

This sample of woody stems in transverse sections is said to be obtained locally in Singapore and also imported from China; the drug has no distinct odour or taste. It is difficult to identify the mother plant from this sample. Ch'ieh is a name for *S. melongena*, the egg plant or brinjal. Ku ch'ieh is a name given to *S. dulcamara*, the Bitter-sweet. *S. nigrum* is used in medicine; and the stems and roots of all three species have been recorded among the drugs of China.

The stems are regarded as antirheumatic and are applied in the form of decoction for carbuncles and boils. In Annam the root is considered good for skin diseases. The whole plant of *S. dulcamara*, according to Stuart, is a counter poison.

367. **Solidago virga-aurea,** Linn. Compositae.

寄奴: Chi (to lodge) nu (servant): local name 'Chee noo'. Lui chi nu, Br. iii. 86; Pen ts'ao; Tatar.; P.S.; C.R. Alpha. 739; St.; B.E.R.; Ph. Soc. Mus.

A native of Europe, America, temperate Himalaya, China, and Japan. It is the Golden Rod of the British flora. The generic name is a derivative of *solidare*, to unite, because of the vulnerary qualities of the plant. It is exported through the Customs at Canton, Ningpo, and Amoy, often mixed with other composites. The Chinese name has also been applied to *Senecio palmatus*, Pall., and, inappropriately, to *Siphonostegia sinensis*, Benth. The Malayan sample came from Canton, and consists of the dried stem and leaves of the plant.

368. **Sophora flavescens,** Ait.: (*Robinia flava*, Lour.; *R. amara*, Lour.: *S. angustifolia*, Sieb. & Zucc.).
Leguminosae.

苦參: K'u (bitter) shên (ginseng): local or Cantonese name 'Foo sam'. Br. iii. 34; Tatar.; Debeaux; P.S. under *Robinia*; C.R. Alpha. 635; T. & M.; A.H.; St.; B.E.R.

This tree is more dwarfed and herbaceous compared with *S. japonica*; it is fairly common in Mid-China and plentiful in Honan and Szechwan. Dr. Henry found the root being collected in Hupeh from a tree identified as *S. Kronei*, Hance, a species now reduced to *S. flavescens*.

The drug is one of the five shêns of China, and is an article of export from Canton. The Singapore sample came from Yunnan and is labelled 'Bitter Seng roots'.

The root occurs in thin slices cut transversely or obliquely,

less than 1 in. in diameter, of a yellow colour and an exceedingly bitter taste.

The drug is considered good for fever, jaundice, dysentery, and scrofula; it is a bitter tonic and stomachic, considered by some to be better than the true ginseng.

369. **Sophora japonica,** Linn.: (*Mimosa corniculata*, Lour.). Leguminosae.

The Huai or Sophora of China and Japan is an ornamental tree of very common occurrence, and not unfrequently is met with in gardens of Europe.

It affords two commercial products; the flowers and pods.

Flowers. 槐花: Huai (Sophora) hua (flowers): local and Cantonese name 'Wai fah'. Hwai shu, Br. iii. 322; Tatar.; Debeaux; Hanb. Sci. pa. 237; T. & M.; J.R.; P.S.; A.H.; C.R. Alpha. 502; St.; Wilson; Shaw; B.E.R.

The greenish-yellow, unopened flowers are exported from Shanghai and Ningpo and used for dyeing cloth Imperial Yellow, or for rendering blue cloth green. In medicine they are astringent and styptic.

370. Pods. 槐子: Huai (Sophora) tzü (seed): local name 'Wai kok tsz'. Huai kio (pods), huai tsz (seeds), Br. iii. 322; A.H.; Huai cheao tze. C.R. Alpha. 501; Hosie, under *S. tomentosa*; Ph. Soc. Mus.

The legumes are exported from Canton. In a dried state they are from 1 to 4 in. long by $\frac{3}{10}$ to $\frac{4}{10}$ of an in. wide, wrinkled, fleshy, semi-transparent, more or less contracted between the seeds, which usually do not number more than six. The pods are used as a yellow dye, and in medicine as a tonic and astringent.

371. **Sterculia platanifolia,** Hook. f. Sterculiaceae.

梧桐子: Wu t'ung (Point tree) tzü (seeds): local and Cantonese name 'Ng thoong chee'. Hanb. Sci. pa. 246; A.H.; P.S.; Br. ii. 516; Debeaux; C.R. Alpha. 1475; Shaw; St.; B.E.R.

This is one of the many T'ung trees of Central and South China. It is planted as an ornamental tree in courtyards of Chinese temples and houses, its large leaves affording an excellent shade. It grows also in Japan and the Shan Hills.

The wood is used for making musical instruments and coffins. The fibrous inner bark is manufactured into cloth and ropes. The seeds, which are about the size of peas, and externally covered with a pale brown, shrivelled, shining skin, are oily. The crushed seeds are said to restore grey hair to black. A preparation is applied in aphthous sore mouth in children. They enter into the composition of 'Moon cakes' eaten by Chinese at the Autumn festival of the eighth moon.

372. **Sterculia scaphigera,** Wall.: (*Scaphium scaphigerum.*). Sterculiaceae.

大海子: Ta (great) hai (sea) tzü (seed): local name 'Tai hoi chee'. Hanb. Sci. pa. 235, 290. Fig. 4; C.R. Alpha. 1223; P.S.; P'ang tai hai, St.; Bungtalai (Siamese); Kembang (expand), semangkok (cup full) (Malay).

A tree of Cambodia, Siam, and India. The drug comes chiefly from the Tatung mountains of Annam. The seeds are brought to India by Mohammedan merchants from Java and Singapore, and there is a trade in the article between Singapore and Canton.

The seeds are from ¾ to 1 in. long, ovoid, somewhat elongated at the lower end which terminates with an oblique cicatrix. Externally dark brown and deeply wrinkled. When the fruit is macerated in water the outer shell or pericarp increases enormously in volume, forming a large gelatinous mass.

The jelly is sweetened and eaten as a delicacy, and is said to be a specific in diarrhoea and dysentery.

373. **Tamarix chinensis,** Lour.: (*T. gallica*, var. *chinensis*, Ehrenb.). Tamaricaceae.

垂柳: Ch'ui (droop) liu (willow): local and Cantonese name 'Sooi see lou': 'weeping willow'. Ch'êng liu; Tatar.; San ch'un liu, Br. ii. 250, 527; P.S.; C.R. Alpha. 270; St.; B.E.R.

The above is the most common species of tamarisk found all over China. It is probably a variety of the widely spread *T. gallica*. It is a tree of medium size with minute acute imbricate leaves, and resembles a willow in habit. The twigs are glabrous and of a reddish-brown colour. The twigs and leaves are imported from Canton, and are used as a vulnerary, carminative, and diuretic.

374. **Terminalia chebula,** Roxb. Combretaceae.

柯子: K'o (axe handle) tzü (seed): local name 'Oh chee'. Ho tsze, Ko lih le, Hanb. Sci. pa. 232; P.I.; St.; B.E.R.; Tatar.; P.S.; T. & M.; J.R.; C.R. Alpha. 379.

Chebulic myrobalans are imported from India. They are hard, oval, or oblong fruits, about an inch or more in length, somewhat pentagonal, and with a yellowish-brown or greenish colour, and bitter astringent taste. They contain 25–30 per cent. tannin. They are well known for their tanning and dyeing properties. In medicine they are esteemed not only for their astringency but also for their purgative action; they are also used for coughs and dysentery.

Hair dyes, diet drinks, and charms to drive away diseases are spoken of as being made from these nuts.

**Thuja orientalis,** Linn.: (*Biota orientalis,* Endl.). Coniferae.

The Po tree is a native of Northern and Western China and is cultivated in many other asiatic countries. It is the Cypress of South China and the Arbor vitae of the North. It yields the cypress wood much used in making furniture, and the Chinese and Japanese delight to dwarf the trees into all sort of shapes. The tree yields two well-known drugs: the kernels and leaves.

375. Kernels. 柏子仁: Po (cypress) tzü (seed) yen (kernel): local name 'Pak chee yan'. Br. ii. 505; iii. 300; C.R. Alpha. 968; T. & M.; P.S.; Pen ts'ao; Tatar.; Hosie; St.; B.E.R.; Ph. Soc. Mus.

These are small, oval, pointed seeds 3 to 5 mm. long, brownish-yellow, with oily kernels smelling of pine. They are exported from Shensi, Hankow, and Tientsin, and according to Hosie, from Szechwan. They are nutritive and fattening; they benefit the respiratory organs and check profuse perspiration.

376. Leaves. 扁柏: Pien (tablet) po (cypress): local name 'Pin phaik'. C.R. Alpha. 1019; P.S.; Henry; St.; B.E.R.; Ph. Soc. Mus.

Po or peh is applied to the Cypresses as trees having their leaves in the same plane, like a table or tablet, as distinguished from the junipers whose leaves are spreading. The green twigs with imbricate leaves are an ingredient in incense, and are exported from Canton. The Singapore sample came from China and is also collected locally. The leaves are used in haemorrhage, and for colds.

377. **Tinospora cordifolia,** Miers. Menispermaceae.

寶拒行: K'uan chu hsing: Fun khu hang (Cant.): local name 'Foon kan thang'.

The stem of this creeper is not a usual Chinese drug. A specimen called K'uan chin t'eng in the Ph. Soc. Mus. is referred to this plant and is said to be antispasmodic and sedative. Dr. Henry mentions the root of *Tinospora sagittata,* Gagnep. (*Limacia sagittata,* Oliver), known as a medicinal simple in West Hupeh and West Szechwan, as Ch'ing niu tan. In Formosa he met with the root of *Limacia sp.,* used as a drug named Chin shêng; exported from Shanghai (C.R. Alpha. 158). *T. cordifolia* is a well-known medicinal plant in India, and has Sanskrit names meaning 'Bile destroying' and 'Dear to physicians'. In native practice it is much valued as a tonic and antiperiodic in fevers. The dried stem is seen in every drug shop, and from it is prepared a kind of starch known in Hindustani as Gilau ka sat and Palo.

The Malayan sample came from China and is obtained locally, probably imported. It occurs in transverse slices in which the

light brown papery epidermis is separated in flakes. The wood is dull, light yellowish-brown, consisting of a number of wedge-shaped bundles; the taste is very bitter and without odour. It agrees in its characters with the stem of authentic botanical specimens of the plant.

378. **Torreya nucifera,** Sieb. & Zucc.: (*Taxus nucifera*, Linn.). Taxaceae.

榧子: Fei tzu: Fi tsz (Cant.): local name 'Fee tsee'. Fei shih, Br. iii. 286; Pen ts'ao; Kaempfer; Tatar.; Hanb. Sci. pa. 233; C.R. Alpha. 297; P.S.; J.R.; Henry; St.; B.E.R.

*Torreya nucifera* is a Japanese tree which occurs in the Hupeh mountains and in Western Yunnan. It resembles in habit the allied tree *Cunninghamia sinensis*. The nuts are exported from Shanghai and Canton, and the Singapore supply comes from China. Dr. Henry remarks that the drug from Chekiang consists of seeds of *T. grandis* Fortune.

The seeds are from 1 to 1½ in. long, ovoid or oblong, cylindrical, pointed at the upper extremity. The testa is of a cinnamon-brown colour, woody, and fragile, marked longitudinally with broad, shallow striae, and having a smooth scar at the base. The nucleus, which is deeply corrugated, is covered by a thin brown membrane; its base is marked by a conspicuous scar. The seeds are eaten like hazel nuts, and are considered wholesome. They are regarded by some to be laxative and anthelmintic.

379. **Trichosanthes kirilowii,** Max., and **T. multiloba,** Miq. Cucurbitaceae.

瓜樓仁: Kua (gourd) lou jên (kernel): local name 'Kwa low yin'. Other names, t'ien kua (heavenly gourd), huang (yellow) kua, Br. ii. 385, iii. 172; Lour.; Tatar.; P.S.; T. & M.; J.R.; C.R. Alpha. 640; Henry, *Chin. Pl.* 193; Hosie; St.; B.E.R.; Ph. Soc. Mus., sample from Singapore.

This is a climbing plant, having yellow fruit, found in most parts of China. It is evident that the vernacular name is applied to other species as *T. palmata*, *T. japonica*, Regel., and *T. curcumerina*, Miq., are used in medicine, and Dr. Henry observed that the name was applied to two species in Hupeh. The skin of the fruit and seeds are exported from Hankow, Chinkiang, and Canton.

The seeds are oval, somewhat triangular, flattened, light brown or blackish, 13 mm. long by 9 mm. broad, with sweet, oily kernels. They are regarded as nutritious, tonic, and astringent. The white root contains a starch, t'ien hua fen (Alpha. 1292), which is extracted, exported, and used medicinally.

380. **Triticum vulgare,** Linn. Gramineae.

浮小麥: Fu (floating) hsiao (small) mai (grain): Fau siu mak (Cant.): local name 'Fow siew mak'. Br. ii. 339; iii. 218; T. & M.; C.R. Alpha. 326; St.; B.E.R.

Hsiao mai is the Chinese name for wheat, and Ta mai or great mai is the Chinese name for barley, but Dr. Read says in many parts of the country these names are used indiscriminately. Fu mai refers to grains of wheat which have not filled out and therefore float on water. They are roasted and are considered useful in colliquative sweating, especially in tuberculosis in women.

381. **Tussilago farfara,** Linn. Compositae.

冬花: Tung (winter) hua (flowers): local name 'Toong fah'. K'uan tung hua (flowers which like the winter), Br. iii. 109; Lour.; J.R.; C.R. Alpha. 650; P.S.; Henry; St.; B.E.R.; Hosie identifies this drug as *Petasites japonica*, Miq.

The coltsfoot is a plant which flowers in the early spring in North China. Loureiro noticed this plant in Cochin-China in 1790 and referred to its medicinal properties. Regnault speaks of its use in Annam. The dried flowering scapes with purplish stems are exported from Tientsin, Hankow, and Ichang. The plant was found by Dr. Henry in Hupeh where it was collected by natives and sent by way of the Hui river to Hankow. The flowers of the Loquat (*Eriobotrya japonica*) are sometimes used as a substitute. Porter Smith and Stuart speak of the coltsfoot as an expectorant in cough, asthma, apoplexy, and phthisis.

382. **Tylophora sp.** Asclepiadaceae.

甜苎: T'ien (sweet) lao: local name 'Tim lou'.

These are leaves of a creeping asclepiad, ovate, pointed, with heart-shaped base, clothed with grey hairs, petioles curved, stem twining. The use of these leaves, which are not a usual medicine in China, is not indicated. Lao is a name given in the Customs (Alpha. 695) for Betel leaves (*Piper Betle*), used as a masticatory with Areca nut.

383. **Typha orientalis,** Presl, and other species. Typhaceae.

蒲香: P'u hsiang: P'o heung (Cant.): P'u (rush) wang (royal), local name 'Phoo wong' where wong is used in place of huang (yellow). P'u huang (yellow) is the name for the stamens and pollen of the mace reed, hsiang (fragrant) p'u. Br. ii. 375; iii. 196; C.R. Alpha. 1045; Pen ts'ao; Tatar.; P.S.; Debeaux; Henry; Hosie; St.; B.E.R.; Ph. Soc. Mus.

Several species of mace reed or bulrush grow on the margins of pools in China and Japan. *T. angustifolia*, L., *T. latifolia*, L., *T. japonica*, Miq., and *T. Laxmanni*, Lepech., are cited by the above authors as plants affording the above drug.

The Malayan sample came from Canton, and agrees with the stamens of *T. orientalis*, a bulrush found in the south of China. It consists, however, of only the stamens, left after removing the pollen by sifting. Stuart calls this preparation P'u o, and says it is used as an astringent in dysentery and haemorrhage of the bowels. The p'u huang, consisting of the stamens and the golden yellow pollen, is an astringent and styptic. It is also mixed with honey and sold as a sweetmeat.

384. **Valeriana sp.** Valerianaceae.

甘松: Kan sung (sweet pine): Kom ts'ung (Cant.): Singapore name 'Kam choong'. Kan sung hsiang; Kao sung, P.S.; T. & M.; J.R.; A.H.; St.; B.E.R.; Ph. Soc. Mus.

Valerian root is a drug used throughout China and India. The Singapore drug came from Szechwan and consists of rootstocks, reddish-brown in colour, about 10–12 mm. in diameter, covered with dry scales furnished with radicles, and at the upper part the remains of dead leaf-stalks. The taste is bitter, and the odour of valerian distinctly marked. The root resembles that of the botanical specimens of *V. Wallichii*, DC., an Indian plant, but found also in Yunnan, Western, and Northern China. Dr. Henry observed the root of *V. officinalis*, DC., being collected as a drug in Ichang, where it is called Pa ti ma.

The true Spikenard of the East, as shown by Sir William Jones, (*As. Research.*, ii. 405) is the product of *Nardostachys Jatamansi*, DC., another plant of the Valerian family, growing in the Alpine Himalayas from 11,000 to 17,000 feet, and in the mountains of Yunnan and East Szechwan. It is a Tibetan drug as noticed by the botanists of the recent Everest Expedition. The root is distinguished by the matted remains of the leaf stalks being more abundant than in the root of the Valerian. These roots are used as a carminative, tonic, and cordial remedy for nervous affections.

The name Kan sung hsiang appears to be applied to *Nardostrachys*, while Kan sung is used for Valerian root.

385. **Vigna catiang,** Walp.: (*V. sinensis*, Endl.). Leguminosae.

This kidney bean or 'Cowpea' of America is cultivated throughout China, India, Cochin-China, and in the tropics generally. Tau stands for various forms of beans or pulse, and according to Bretschneider Ta tou (great bean) is the name given to Soy (*Glycine Soja*, S. & Z.), and Siao tou (small bean) is applied to species of *Phaseolus*.

There are two drugs yielded by *Vigna catiang*; seeds and pod refuse.

赤小荳: Ch'ih (naked) hsiao (small) tou (bean): Ch'ik siu tau (Cant.): local name 'Chit sew tow'. Br. ii. 355, 356; Tatar.; Lour.; P.S.; T. & M.; B.E.R. under Chiang tou.

The Singapore seeds are obtained locally as well as from China. They are oblong in shape 6–7 mm. long by 3 mm. wide; they are red brown to black in colour, with a white hilum.

386. 白豆殼: Pai (white) tou (bean) koh (husk): Pak tau hok (Cant.): local name 'Pak tow hock'. This is the Chinese name for the Round Cardamom.

This drug consists of the dry stalks and fibrous remains of the pods, from which the pulpy portion has been removed by soaking and kneading. Crevost and Lemarié describe the fabrication in Indo-China of a kind of vermicelli or bean curd from these pods. It would appear that this drug is the factory refuse.

387. **Viola sp.** Violaceae.

集膝主: Chi hsi wang: local name 'Chok see wong'.

The drug is composed of dried, broken leaves, stalks, and fruits of a violet, resembling *V. Patrinii*, DC., a plant very common in North China, India, Manchuria, and Japan.

But the name does not correspond with the usual vernacular names for violets. Chin is the name for violet in Bretschneider (ii. 371). Matsumura, Stuart, and Read give Tzu hua ti ting (purple-flowered ground thing) for *V. Patrinii*. Ti ting is a contraction of this name used for dried violet plants in the Customs (Alpha. 1272, 1411). There is a specimen of the plant under this name in the Pharmaceutical Society's Museum. Wild violets are used as pot-herbs and are said to purify the blood; they are also bruised and applied to ulcers and foul sores.

388. **Vitex negundo**, Linn.: (*V. incisa*, Lam.). Verbenaceae.

京子: Ching tzü (seeds): King tsz (Cant): local name 'Kheng chee'. Man (creeping) ching, Huang ching. Br. iii. 349; Lour.; Tatar.; P.S.; Debeaux; J.R.; C.R. Alpha. 819; Wu chi (5-finger) ching, Canton name, Parker; Henry; St.; B.E.R.; Ph. Soc. Mus.

This shrub is found plentifully in North China. The branches are slender and weak, somewhat resembling a vine, hence the Chinese name. The berries of this and perhaps other species of Vitex are the part used in medicine; they are exported from Wenchow, Amoy, and Hankow. The Singapore samples came from Canton.

The berries are globular, black, like a nut, 2·3 lines in diameter, partly covered with the remains of the calyx, white

and ligneous within, made up of four adhering carpels. They have little taste or smell.

The fruits are given for headache, catarrh, and watery eyes. They are extensively used in Indian medicine.

389. **Vitis serianifolia,** Max.: (*Ampelopsis serianifolia,* Bunge). Vitaceae.

白斂: Pai (white) lien (to collect): Cantonese and local name 'Pak lim'. Br. ii. 453; iii. 180; S. & T.; C.R. Alpha. 954; Henry; St.; B.E.R.; Ph. Soc. Mus.

A common climbing plant, with digitate leaves, found in Mid China and Japan. The root, which is the part used in medicine, consists of several tubers with reddish-black skin and white flesh, collected together like a nest of ducks' eggs. One Chinese name of the plant means 'Goose sitting on eggs'.

The dried roots are exported from Canton and Amoy. The Singapore sample came from Yunnan.

The drug consists of dried slices of the tubers, ovoid, about 2 in. by 1 in., hard and starchy in consistence, with a dark skin.

The root is used as an anodyne and is a cooling application for inflammatory swellings.

390 and 391. **Wood Fungus.**

龍鬚: Lung hsue hua: Lung so fatt: Cantonese name.

汀香仁: T'ing hsing jen: Ting hang yan: Cantonese name.

These two samples, although differing in name, are very similar in appearance. They are brown masses of broken down or decayed woody material, held together by web-like strands, like the cocoon of some insect. The microscope shows the filaments to be mycelium proceeding from the woody particles which appear to have been disintegrated by the action of a fungus. The only reference to such a peculiar drug is one given by Stuart under Ch'eng tung fu mu'. This is the name for rotten wood from the east of the city of Shanghai. 'It is considered to be astringent and carminative, and a decoction in spirits is applied to centipede bites and to numbness and prickling of the extremities.'

392. **Xanthium strumarium,** Linn.: (*X. indicum,* König). Compositae.

倉耳子: Ts'ang (green) erh (ear) tzü (seed): Ts'ang yee tsz (Cant.): local name 'Chong yee chee'. Br. iii. 92; Pen ts'ao; Cleyer; Tatar.; Hanb. Sci. pa. 233; P.S.; Debeaux; A.H.; C.R. Alpha. 1328; Parker; St.; B.E.R.

This is an almost ubiquitous weed in warm and temperate climates and is found throughout China and Japan. A Chinese

name of the plant Yang fu lai (sheep carried it here) conveys the popular impression that it was brought into China from the north by the prickly fruits adhering to the fleeces of the sheep. The fruits are exported as a drug from Canton and Amoy. They are probably the Xanthion of Dioscorides.

The burs are armed with uncinate bristles, 2-celled, each cell containing one ovule enveloped in an anterior tunic. They are used in medicine as a tonic, diuretic, diaphoretic, and sedative.

The leaves, under the name of *Herba Lappae Minoris* were formerly official in Europe, and were administered internally in scrofula and herpes.

393. **Zanthoxylum Bungei,** Planch.: **Z. alatum,** Roxb., and other species. Rutaceae.

花椒: Hua (flower) chiao (pepper): Fa tsiu (Cant.): local name 'Fah chew'. Br. ii. 497; iii. 288; Pen ts'ao; Tatar.; Hanb. Sci. pa. 228. Fig. 1; C.R. Alpha. 492; P.S.; A.H.; Wilson; St.; Hosie; B.E.R.; Ph. Soc. Mus.

The Fagara of ancient authors. The Chinese regard these fruits as a pepper, as distinguished from black pepper (hu chiao) and chillies or Cayenne pepper (ta chiao). The plants are wild and cultivated in different parts, especially Chihli, Hupeh, Shensi, and Szechwan. Wilson remarks that *Z. Bungei* is the only cultivated species in China. The fruits are an article of commerce in all the treaty ports.

The 'pepper flowers' consist of small red carpels usually dehiscing and empty, or sometimes enclosing small, oval, black, pitted, shining seeds. By abortion, the carpels, normally four in number, are reduced to two; they are oval, bright, reddish-brown, brittle, covered with tubercles, having an aromatic odour and a peculiar pungent and terebinthinate flavour, with a benumbing acrid after-taste. Broken peduncles are generally mixed with the drug. The active oleo-resin resides in the tubercles. For this reason the seeds are discarded when preparing the fruit for medicine and for seasoning food. The drug is regarded as an excellent stimulant, carminative and sudorific.

394. **Zanthoxylum piperitum,** DC. Rutaceae.

川椒: Ch'uan (Szechwan) chiao (pepper): local name 'Choon kow'. Shu (Szechwan) tsiao, Br. ii. 259, 497; iii. 289; Lour.; Tatar.; P.S.; St.; B.E.R.; C.R. Alpha. 241. The seeds, tsiao mu (pepper eyes).

The Szechwan pepper plant has been identified as *Z. piperitum*, the carpels of which are used as a condiment and medicine. The leaves and root are also used in medicine. The drug sent under the above name, is the root of a plant in thin slices, yellowish-brown in colour with a bitter taste. It is used as a purgative in kidney and bladder difficulties.

395. **Zanthoxylum sp.** Rutaceae.

開祁蛇: K'ai ch'i she: Hoi k'i she (Cant.): local name 'Hoi kee sa'.

Under this peculiar name the fruits of a species of *Zanthoxylum* are sold in Singapore. They are not readily distinguished from those of *Z. Bungei* except that the carpels are older and nearly black, and the shining surface of the seed is removed, showing pitted markings.

396. **Zanthoxylum sp.** Rutaceae.

烏不宿: Niao pu su: Niu pat suk (Cant.): local name 'Liew pak shook'.

This drug consists of pieces of stem with greyish spines having elongated woody bases similar to those seen in some species of *Zanthoxylum*.

397. **Zingiber officinale,** Roxb. Zingiberaceae.

干薑: Kan (dry) chiang (ginger): Kon keung (Cantonese and local name). Pen ts'ao; Tatar.; P.S.; Debeaux; Br. iii. 249; C.R. Alpha. 574; T. & M.; J.R.; St.; B.E.R.

The ginger plant is largely cultivated in the central and southern provinces. The rhizome is prepared for the market by removing the skin, after maceration in water, and drying the root in the sun. It is branched, wrinkled, and furrowed, of a light brown or yellowish colour, horny consistence, and characteristic pungent taste. Ginger is largely used as a condiment and in domestic medicine. It is prescribed as an adjunct to many tonic and stimulating remedies. In Perak thin dry slices of the root are sold as a well-known vermifuge.

398. 薑皮: Chiang (ginger) p'i (peel): keung p'i (Cant.): local name 'Keong phee'.

Sheng (raw or fresh) ginger rind is mentioned in various works: J.R.; St.; B.E.R. It is an article of commerce (C.R. Alpha. 77). The specimen of old ginger skin is the peel taken from the fresh rhizomes, specially grown in sandy soil, dried, and exported from Canton to the Straits. Ginger root skin is used as a carminative and is said to be a remedy for opacity of the cornea.

## UNIDENTIFIED

399.

救必應: Chin pi ying: local name 'Kow peet ying'.

The bark of a root in thin transverse slices. It is bitterish and astringent to the taste. It is probably the drug noted in the Customs (C.R. Alpha. 207). There is no clue to its origin.

400.

金鎖匙: Chin (gold) so (lock) shih (key): Kam so shi (Cantonese and local name).

A root in thin oblique sections, about 10 mm. in diameter, light brown bark, wood whitish with medullary rays; slightly bitter to the taste. Probably a local drug of Canton.

401.

川竹黍: Ch'uan (Szechwan) chu (bamboo) ch'i (seven): Ch'uen chuk ts'at (Cant.): local name 'Yee cheok chut'.

A root or rhizome about the size of the little finger with a hard and horny fracture. The cuticle is grey brown, and wrinkled, showing the scars of numerous rootlets; brownish and translucent within; with a warm, aromatic, and bitter taste.

402.

穿破石: Ch'uan p'o (break) shi (rock): local name 'Phoh siak'.

Sections of a light coloured woody stem, with yellowish-brown bark, 1 in. in diameter, with no taste or odour. This is the name of an unidentified root (C.R. Alpha. 256) exported from Canton and Kwangtung. The break rock refers to a plant with roots piercing cliffs and stones, like a Saxifrage. The wood, however, is similar to that of the Moraceae. A sample of the drug is in the Pharmaceutical Society's Museum, where it is referred to as a blood stimulant and tonic.

403.

想思草: Hsiang ssu ts'ao: local name 'Seong see chow'.

This is a local Foochoo or Cantonese drug mentioned in the Customs List, Alpha. 422, and not there identified. It occurs as pieces of stem of the size of a quill, with smooth reddish-brown exterior, and white and pithy within. It does not appear to be an officinal drug.

404.

血方行: Hsueh fang hsing: Huet fong hang (Cant.): local name 'Hoot foong theeng'.

Slices of woody stem, 1 in. across, dark brown bark, wood with pitted vessels, brown pith. Obtained locally and from China. Probably a Canton drug, Hsüeh t'eng (C.R. Alpha. 479). A creeper mentioned in the Pen ts'ao, yellow coloured, used as a blood remedy (St.).

405.

一条根: I t'iao ken: local name 'Yet teau kan'.

Sliced root or stem, wood whitish, dense, radiating medulla, bark thin, brown, tasteless. Probably the same as T'iao ken, (C.R. Alpha. 1278) an unidentified drug exported in small quantities from Amoy to the Straits Settlements.

406.

人中黃: Jen (human) chung (heart, centre) huang (yellow): local name 'Yan cheong wong'.

The Chinese name is that given to human excrement (Soubeiran, 1874, p. 44, Dr. B. E. Read) which is included in local materia medica as a remedy for hydrophobia. The drug from Singapore is apparently a part of a cylindrical mass of light coloured vegetable matter, as if made by pressing broken portions of plants into a hollow bamboo and drying. It consists mainly of starchy material mixed with fibrous stalks. The starch has similar appearance to that of the sweet potato (*Ipomoea Batatas*).

407.

過知草: Ko chih ts'ao: local name 'Ko chee choo'.

Pieces of stem, as thick as a quill, an inch or more long, with hairy buds, light brown coloured bark, white pith.

408.

狼獨斗: Lang (wolf) tu (poison) teo: local name 'Long took tau'. Br. iii. 132; P.S.; St.; B.E.R.

Wolfsbane is a very ancient drug in China as it is mentioned in the Shennung Pen ts'ao (xxvii century B.C.) as one of the five chief poisons: the others being Croton seeds, Veratrum root, Aconite, and Cantharides. Lang tu has been referred to Aconitum, Ranunculus, and Mandragora. The Malayan specimen consists of sliced tubers about 1 in. in diameter of a tough consistence and whitish colour. Under the microscope there is an abundance of starch with bundles of needle-shaped raphides, and cluster crystals, characteristic of an aroid.

409.

勒菜强: Leh ts'ai (vegetable) ch'iang: Leh ts'ai ch'iang (Cant.): local name 'Lut chai kang'.

Thin transverse sections of a stem, ½ to 1 in. in diameter, light coloured, and tasteless. The meaning of the name and the origin of the drug cannot be traced.

410.

**地風**: Ti (earth) feng: local name 'Tee foong'.

Obtained locally and from China. This is a thick, reddish-brown bark, with the odour and taste of cloves or cassia. It is probably a local Canton drug, described as a root-bark, mentioned by Dr. Henry in the list of Chinese medicines (C.R. Alpha. 1262).

411.

**田刀木**: T'ien (field) tao (knife) mu (wood, tree): local name 'Ap keo moot'.

Slices of bark cut into match-like sticks. They have some resemblance to the bark of a magnolia.

412.

**定馬胎**: Tsou ma (horse) t'ai (womb): Tsau ma t'oi (Cant.): local name 'Chow mar thoy'.

Stem of shrub or tree in slices. Imported from China and available locally. Ma t'ai (C.R. Alpha. 809) is a root from Foochow and Canton. Tsao ma t'ai, a root in Ph. Soc. Mus. labelled *Daphnidium sp.* (Lauraceae). Stimulant and tonic. Ma t'ai in Parker's *Canton Plants* is referred to *Scirpus tuberosus*, Roxb. 'Water chestnut'.

413.

**茨茹**: T'zu ku (tuber): Ts'z koo (Cant.): local name 'See koo'.

Drug from Canton. Rhizome with long pliable rootlets, pungent and camphoraceous, probably belonging to Scitamineae Use 'For a leg broken by a fracture'.

414.

**武沙分**: Wu sha fen: Mo sha fan (Cant.): local name 'Mow sa fun'.

A rhizome, black externally with transverse wrinkles, whitish within. It resembles the root of *Veratrum nigrum.*

415.

**武靴行**: Wu hsüeh hsing: local name 'Woo hay hung'.

Oblique slices of woody stem, 1 in. across, bark greyish-brown with dark brown lenticels; wood hard, light coloured. Wu hsüeh (C.R. Alpha. 1456) is a local drug of the Foochow province, classified as 'twigs and leaves'.

## ANIMAL SUBSTANCES

416. **Tigers' Bones.**

**虎骨**: Hu ku: Fu kwat (Cant.): local name 'Foo kwat'. Pen ts'ao; Tatar.; P.S.; Hosie; C.R. Alpha. 483.

The bones of tigers, leopards, and lynxes are brought from Manchuria, Formosa, Yunnan, and Szechwan, and sold at high prices as ingredients in tonic preparations. Their administration is supposed to impart bravery and strength.

417. **Buffalo Hide.**

西牛皮: Hsi (west) niu (ox) p'i (skin): Sai ngau p'i (Cant.): local name 'Sai ngow phee'.

The western ox is one of the names of the buffalo; other names are huang niu (yellow cow) and shui niu (water cow). The hides pass through the customs as New pe (Niu p'i). The drug is in ribbon-like shavings of a thick skin of an animal, $\frac{3}{8}$ of an in. broad, whitish, opaque, hard, and tough. This material is probably a convenient source of glue or gelatine so much appreciated in Chinese medicine.

418. **Ox Glue** (*Bos taurus*).

牛皮膠: Niu (Ox) p'i (skin) chiao (glue): Ngau p'i kaau (Cant.): local name 'Ngow phee kow'.

The common glue made from the parings and cuttings of the cow hide has a great reputation in Chinese materia medica, and is frequently used to adulterate asses' glue. Hosie says this glue is made in large quantities in Szechwan and is called P'i chiao or skin glue. A specially good quality is made in Shantung province. The Singapore sample occurs in thick square sticks about 2 in. in length. Medicinal glue is also made from tortoise-shell (Kuei chiao), tigers' bones (Hu chiao), and deer horns (Lo chiao). They are all used as stimulating tonics. Niu p'i chiao of the Customs (Alpha. 907) is said to be a preparation of sesamum seed cake from Chihli, used in adulterating opium.

419. **Asses' Glue.**

阿膠珠: O (prefix) chiao (glue) chu (bead or pearl): O kaau chue (Cant.): local name 'Oh kow'. O chiao, lu p'i chiao, P.S.; J.R.; Hosie; Williams.

In some parts of China, notably in Shantung, Hupeh, and Szechwan, and in Manchuria, the skins of asses are boiled down into a medicinal glue which is run into cakes or tablets and then wrapped in red paper. The glue passes through the Customs (C.R. Alpha. 917) prepared in various forms. In Malaya the drug occurs in hard, translucent, disk-shaped pieces, 10–12 mm. in diameter, of a light yellowish-brown colour. In Annam asses' glue is made by boiling asses' skins in a special well water. By the Chinese it is regarded as a perfect medicine; it is said to have tonic and aperient properties and to be a specific in dysmenor-

rhoea. It is priced at T. 16 a picul. There is an imitation asses' glue called 'Chiao o chiao' which is also made into tablets valued at HT. 12 a picul.

420. **Sheeps' Excrement.**

羊月砂: Yang yueh sha: Yeung uet sha (Cant.): local name 'Mown yit sa'.

Yueh sha in the Customs Report (Alpha. 1567) is referred to rabbits' dung collected at Fukien and Kwangtung. The specimen from Singapore consists of rounded bodies of the size, shape, and appearance of sheeps' droppings. Debeaux in his list of animal substances used in Chinese medicine mentions Houang tsee chee, the excrement of the mountain goat. He adds 'Its properties are purely imaginary'.

421. **Hartshorn** (*Cervus Sika*, Temm.).

明鹿根: Ming (clear) lu (deer) ken (root): Ming luk kan, Cantonese and local name.

The Kwangtung province supplies the market with the horns of the Sika deer of Northern Asia, which are used in shavings or a jelly or as burnt hartshorn. Lu chaio is the name for old horns, Lu jung the name for young horns. The latter and horns 'in the velvet' are most esteemed, and extraordinary prices are paid for them (C.R. Alpha. 767). The specimen from Singapore is cartilaginous and fibrous as if taken from the base or root of the horn. The jelly made from it is used for spermatorrhoea, haematuria, and incontinence of urine.

422. **Burnt Hartshorn.**

鹿角霜: Lu (deer) chiao (horn) shuang (burnt): Luk kok seung: local and Cantonese name.

The name shuang refers also to frost and the white efflorescence on certain salts. The specimen is that of white, light, friable pieces of burnt bone. The same name is used in the Customs List (Alpha. 760) for deerhorn glue refuse from Kwangtung. The bones, left after extracting the gelatine with water, are dried and burnt, leaving impure calcium phosphate. Burnt hartshorn is a stimulant and tonic, and holds an important place in Chinese medicine, as it once did in all old European Pharmacopoeias.

423. **Edible Birds' Nests.**

燕窩: Yen (swallow) wo (nest): In wo (Cant.): local name 'Yin woh'.

This is the gelatinous nest of the swallow (*Callocalia brevirostris*) elaborated by the bird from species of *Gelidium* and other seaweeds. It is found in Java, Borneo, Ceylon, and the

Indian Archipelago. It is a pale brown substance, occurring in irregular fragments, weighing quarter to half ounce, brittle and wrinkled, softening in hot water. There is a large trade in the article at Fukien. It is a tonic and invigorating medicine. It is very expensive and takes rank after ginseng.

424. **Magpie Excrement.**

靈芝: Ling (bird) chi: local name 'Lin chee'.

These are black, oblong, bodies, pointed at the ends, ½ in. long, light in texture, and disintegrating in water. Bretschneider (iii. 266) discussing *chi*, the name applied to various mushrooms, states that *ling chi* is imported into Ningpo from Hankow, and imported to Amoy, and is identified with birds' excrement.' In the Customs Report (Alpha. 731) Ling chi (Wu ling chi) is called 'Dung of Magpie'. Porter Smith refers it to a *Honiculus* or *Coturnix*. Soubeiran and de Thiersant apply the name to the excrement of the bat. It is unnecessary to specify the numerous qualities attributed to such a drug.

425. **White Pigeon Excrement.**

白鴿屎: Pai (white) ko (pigeon) shih (excrement): Paak kop shi, Cantonese and local name.

The uro-faecal excretion of this bird occurs in the shops in small, dark-coloured fragments, made up of vegetable debris which disintegrates in hot water. Porter Smith says the drug is used as a veterinary medicine and is credited with antiscorbutic and vulnerary properties. It was a famine food in Samaria 893 B.C. (II Kings vi. 25).

426. **Fowls' Egg-shells.**

蛋殼: Tan (egg) k'o (shell): Taan hok (Cant.): local name 'Tan hock'.

The drug consists of the familiar broken shells of fowls' eggs with the white membrane attached. The shells are called 'Phoenix skins' (Feng huang t'ai Alpha. 305) and are exported from Fukien. The white skin is given in cases of jaundice. The shells are burnt and pulverized and the powder is administered in dysuria.

427. **Fowls' Gizzards.**

內金: Nei (inside) chin (gold): Noi kam, Cantonese and local name.

The lining membrane of the gizzard of the common fowl is carefully peeled off and dried to produce this drug, which is also called Chi nei chin or Chi chun p'i. It represents a wrinkled or plicate surface, yellow or dirty-white in colour. It is a commercial article in the Chinese Customs (C.R. Alpha. 45 and 55)

and comes from Kiangsu, Kwangtung, and Szechwan. It is valued at HT. 6 a picul (Hosie). It is prepared locally in Singapore, where it is prescribed for dyspepsia and other disorders. It is interesting to note that this drug, under the name of *Pelliculae stomachi gallinae interiores*, appeared in the *London Pharmacopoeia* for 1721.

428. **Fowls' Blood.**

鷄血膠: Chi hsüeh chiao. The coagulated blood of the common fowl made into a paste or glue is used in medicine. It is moulded into briquettes measuring roughly $6 \times 3 \times 1$ in., and each briquette is usually packed for transport in a small box of bamboo ware. It is valued at HT. 20 per picul (Hosie).

429. **Pholidotus manis.** *Aurita edentata.*

The scales of this, the Chinese pangolin or scaly ant-eater, which is also known as *Manis dalmanni*, are used in medicine. Variously called 'Ch'uan shan chia p'ien, shan chia, shan chia p'ien and chia p'ien', they are valued at T. 20 to 50 a picul, the tail scales being considered the best. The scales of the Malay Pangolin, *Pholidotus manis javanica*, which ranges from Bhamo through Burma, Cochin-China, and Cambodia, the Malay Peninsula, Sumatra, Java, and Borneo to the Celebes, are also imported into China for the same purpose. Travelling in Yunnan one frequently meets loads of the dried scaly skins being carried north into Szechwan for further distribution by water (Hosie). Porter Smith informs us that the principal use of the scales is to scratch itching surfaces, for which purpose they are fixed upon a length of bamboo as a kind of curry-comb.

430. **Snake Skins.**

Ch'i she. The skin of this snake which derives its name from the Department of Ch'i chou on the left bank of the Yangtsze, between Hankow and Kinkiang, where it is specially abundant, are pounded into medicine. A good specimen of the skin is valued at HT. 3 to 4 (Hosie). Medicinal snake sloughs (She p'i) come from Kwangtung (C.R. Alpha. 1118).

431. **Turtle Shell.**

鱉甲: Pieh (turtle) chia (scale): Pit kaap, Cantonese and local name.

沙鱉甲: Ch'ao (roast) pieh chia: Ch'aau pit kaap, Cantonese and local name. C.R. Alpha. 1015; P.S. under Emys.

The carapace of a species of freshwater turtle found throughout the Yangtze Valley, and collected in Hupeh and Honan. The empty carapaces found on the ground are reputed to make an excellent medicine. The ordinary shell sold

in the shops is about 5 in. square, marked on the concave internal surface by eight ribs. The external convex surface is darker, closely reticulated and marked by lines. The shell is heated with vinegar and water and made into a jelly which is in much repute in fevers, debility, and acute rheumatism.

The second sample from Malaya is roasted. Porter Smith records that the shell is sometimes burnt, reduced to powder and used as a remedy in ague.

433. **Lower Carapace of Tortoise.**

龜板: Kuei (tortoise) pan (board, block): Kwai paan, Cantonese and local name. P.S. under Terrapin.

The land and freshwater tortoise is called Wu kuei from the dark colour of the skin and of the particoloured shell. Several species are enumerated in the Pen ts'ao; they are sacred in the eyes of Buddhists. The aquatic species are officinal. The under-shell, breastplate, or plastron from Kwangtung and Hupeh is an article of commerce (C.R. Alpha. 666), as well as the glue made from it (Kuei chiao, C.R. Alpha. 656). The powdered shell is made into pills, and its jelly enters into nostrums for debility and fevers.

434. **Burnt Carapace.**

荳叩霜: Tou k'ou shuang; Tau k'au seung, Cantonese and local name.

This strange name, indicating nutmeg or cardamom, is given to a sample of burnt particles of a shell. Submitted to an expert it was reported to consist of 'Spherulites with chitin, a preparation of one of the lower animals, belonging to a carapace or siliceous skeleton'. It is evidently a portion of a partly burnt tortoise shell. The ashes of these shells are given to parturient women, and are used as a dusting powder for sores and wounds.

435. **Cuttle Fish Bone** (*Sepia officinalis*, Linn.).

海螵蛸: Hai (sea) p'iao hsiao: Hoi piu siu, Cantonese and local name. C.R. Alpha. 352; Pen ts'ao; Tatar.; P.S.; Wu t'sih yü (Black pirate fish); Wu tseh ku (Black thief bones). The bone of the cuttle fish is boat-shaped, 3 to 4 in. long, 1½ in. wide and 5–7 lines thick, light, and porous. The bone is used as an abradant. The pounce or powdered bone is considered astringent and alterative, and is a domestic remedy for stopping the flow of blood from wounds.

436. **Dried Scorpions.**

金蠍花: Chin (gold) hsiai (scorpion) hua (flower): Cantonese and local name 'Kam sim fa'.

Ch'uan hsiai, scorpions from Chihli (C.R. Alpha. 264).

Ch'uan i, scorpions from Kiangsu (C.R. Alpha. 266). Hosie calls the dried scorpions of Szechwan, Ch'uang chung, and gives the price at one tael per catty. They are from 1 to 2 in. in length, with a tail of six joints. They are dried by heat, the antennae being usually removed. The dried arachnids are an ingredient in a celebrated tincture used as a diaphoretic in certain serious diseases.

### 437. Cicads.

蟬衣: Ch'an i, ch'an t'ui are the names of the brown yellow skins of a beetle used in medicine. They come from the provinces of Chekiang, Hunan, Hupeh, and Szechwan. They are valued at T. 6 a picul (Hosie). Tatarinov gives the above name to a kind of cricket used as the base of a special medicament. The exuviae of cicads is recorded as Alpha. 20 in the Customs List of Chinese Medicines.

### 438. Silkworms, dried.

蠁蠶: Chiang chung, Chiang ts'an.

In the silk-producing provinces of China such of the larvae of *Bombyx mori* as die owing to the inclemency of the weather and to malnutrition, are collected and sold for medicinal use. They are valued at HT. 3·5 a picul (Hosie). C.R Alpha. 74, from Kiangsu and Chekiang.

### 439. Silkworm Cocoons.

蠶衣: Ts'an (silkworm) i (garments): Ts'aam i (Cant.): local name 'Choon yee'.

Ts'an keen and ts'an i (C.R. Alpha. 1325) are the names in the Customs Report for the cocoons of wild silkworms grown on the mulberry trees. Fukien is a market for this commodity. The white cocoons are of the ordinary shape, about an inch in length, enclosing the dead chrysalis.

### 440. Silkworm Excrement.

蛾蠶砂: Ngo ts'an (silkworm moth) sha (sand or sediment): Ngo ts'aan sha (Cant.): local name 'Ngo chaun sa'.

Ts'an sha (ch'ung shih; Yüan ts'an sha) are names in the Customs Reports (Alpha. 1326) for silkworm excreta imported from Fukien and Kwangtung. It is known by the above name in Annam where it is used medicinally. Liu sha is the sandy exuviae of silkworms collected in Szechwan (Hosie). Three samples of this drug were received from Singapore. They are small, black, corrugated bodies of the size of pins' heads. Superficially they resemble seeds, but they disintegrate in boiling water.

441. **A Bug.**

九香虫 or 久香虫: Chiu hsiang. This tree-bug, credited by the Customs (Alpha. 197) to the provinces of Kwangtung and Szechwan, is included in the materia medica. There are two different ways of writing Chiu, and the name may be translated 'Bug with Nine Smells' or 'Bug with Enduring Smells' according to the character used. When fresh it has a very strong disagreeable odour. It is valued at T. 17 a picul (Hosie.)

442 and 443. **Stick Lac (Tachardia Lacca,** Kerr.).

子更: Tzü (seed) keng (to change): Tsz kang (Cant.): local name 'Chee karn'.

紫草茸: Tzu ts'ao jung: Tsz ts'o yung: Cantonese and local name.

Tsze kang and tsze ts'ao jung are trade names of stick lac in the Customs Reports (Alpha. 1344). In the seventeenth century the Dutch bought gum lac in India for export to Persia and other countries (*Sino-Iranica*, by B. Laufer, pp. 476–8). Gum lac or stick lac appears to be still imported into China from India, where it is produced by the lac insect on species of *Erythrina*, *Acacia*, *Butea*, and *Zizyphus*. Although lac resin is mostly used for varnishing and polishing, it is noticed as a medicinal substance by Tatarinov, Tsudsioka, Murai, and Porter Smith. The latter states that it is used as an astringent and alterative internally, and as a plaster for unhealthy sores.

444. **Insect Excrement.**

油虫珠: Yu ch'ung (insect) chu (bead): Yau ch'ung chue (Cant.): Yan choong choo, local name.

These objects are undoubtedly the frass of some insect, but the identification is difficult. It has been suggested, but not confirmed, that they are the excrement of a small Stick Insect (order Orthoptera). Cockroach dung (Ch'ung sha) is an article of commerce in Fukien (C.R. Alpha. 284). The minute objects are hexagonal in shape and consist mostly of sandy matter. The insect is partly carnivorous since fragments of chitin as well as vegetable matter are present.

## MINERAL

445. **Sodium Sulphate.**

元明粉: Yuan meng fen: Uen ming fan: Cantonese and local name. Tatar.; Hanb. Sci. pa. 217; P.S.; Debeaux; C.R. Alpha. 1562.

Glauber salt is sometimes in China called Liu hiuen chin, the name of a scientific saint who lived 200 B.C. and recommended sodium sulphate as a cure for a number of diseases. It is mentioned in all works of Chinese alchemy. The salt is obtained in a natural state in the northern and central provinces. It is used in medicine throughout the country, as well as in Cochin-China, Mongolia, and Tibet.

### 446. Borax, Biborate of Sodium.

月石: Yueh (moon) shih (stone): Yuet shek (Cant.): local name 'Yoot seak'. Pang sha. Pen ts'ao; Tatar.; Hanb. Sci. pa. 217; P.S.; C.R. Alpha. 1568.

Borax is obtained on the shores of lakes north of China, but that in use is generally imported from abroad. It is extensively used by silversmiths and coppersmiths. Its medicinal action is resolvent, expectorant, deobstruent, and stomachic.

### 447. Gypsum, Fibrous Calcium Sulphate.

石膏: Shih kau. Pen ts'ao; Tatar.; Merat.; Cleyer.; P.S.; Hanb. Sci. pa. 218; C.R. Alpha. 1151. Medang Sila (Malay).

Gypsum or hydrous calcium sulphate is met with in Hupeh and other districts often associated with mineral springs. It is used as an ingredient in bean curd and for facing rice. Plaster of Paris or heated gypsum, Shuh shih kan, is a desiccating application to sores and hepatic eruptions. It is also used for making splints for surgical purposes.

### 448. Limonite, Hydrous Oxide of Iron.

無名二: Wu ming erh: Mo ming i (Cant.): 'Woo min yee', local name. Pen ts'ao; Hanb. Sci. pa. 223; P.S.; T. & M.; C.R. Alpha. 1465.

Two specimens under this name came from the Singapore drug shops. They are dark brown, rounded nodules of the size of peas. The Customs Report refers to the drug as pisiform mangiferous limonite. Hanbury calls the mineral hydrous peroxide of iron in grains, and gives an analysis showing that it contains 63 per cent. of iron oxide and 3·5 per cent. of manganese oxide. It is found in the provinces of Szechwan and Kwangtung.

### 449. Ochre.

赭石頭: Che shih t'ou. This is a red hydrated oxide of iron from the provinces of Hunan and Hupeh. It is easily powdered and used in medicine. It costs about T. 1·50 a picul (Hosie).

450. **Iron Sulphate.**

青礬: Ch'ing fan, in the Customs List (Alpha. 183) is a name for impure sulphate of iron, Tan fan is the name for the pure salt, quoted by Hanbury (Sci. pa. 224). The Singapore sample is in small green crystals partly oxidized. The Pen ts'ao sets this down as a useful drug, but it is seldom administered at the present time as an internal remedy. It is used in making ink, hair washes, and as a disinfectant.

451. **Cupric Sulphate.**

膽凡: Tan fan: Taam faan: local Cantonese name.

Tan fan is sulphate of copper or blue vitriol (C.R. Alpha. 1239), sometimes used for sulphate of iron. Porter Smith says 'no sample of blue copperas or copper sulphate is met with, sulphate of iron highly purified, being always furnished and described as tan fan.' Things have improved since this was written. The sample from Singapore is in fine blue crystals and is undoubtedly pure copper sulphate. Emetic, vulnerary, escharotic, and alexipharmic properties are attributed to the salt.

452. **Calomel, Mercurous chloride.**

輕粉: Ch'ing fen (C.R. Alpha. 184), Shin yin fen, Hung fen. This medicinal salt is extensively manufactured in China, principally in the provinces of Hupeh and Fukien, by subliming common salt, mercury, and alum in certain fixed proportions. The sublimate is collected and packed in small chip or bamboo boxes for the market. The port of Hankow on the Yangtsze is one of the chief centres of the manufacture. It is valued at from T. 20 to 40 a picul (Hosie).

453. **Mica, White.**

雲母石: Yuen (clouds) mu (mother) shih (stone): Wan mo shek, local and Cantonese name. Common mica, C.R. Alpha. 1572; T. & M.; Hanb. Sci. pa. 219; P.S.

The name 'Mother of clouds' refers to the hazy colour associated with clouds in opaque mica and talc. Willbourn says Muscovite, or white mica, silicate of aluminium and potassium, is found in fairly large flakes in pegmatite veins in Kedah Peak and in other parts of the Malay States. The sample occurs in small, opaque, broken flakes.

454. **Phlogopite.**

金蒙石: Chin (gold) meng (to cover) shih (stone): Kam mung shek (Cant.): local name 'Kam moong siak'.

Chin sing shih (stone of golden stars) and 'Golden mica' of

Porter Smith. 'Bronze flaky mineral' of the Customs (Alpha. 182). 'Brown mica' from Szechwan and Hupeh of Hosie. 'Micaceous earth' of Hanbury. Phlogopite or bronze mica comes from Kweichow and other places in China. It is mentioned in the Pen ts'ao, and small flakes of it are kept in all druggists' shops as a medicinal agent. In a powdered form it is given in haemorrhage and other diseases of the lungs, and has the reputation of prolonging life. The price is T. 1 a picul (Hosie).

455. **Red Agate.**

山湖: Shan (mountain) hu (lake): Shaan oo (Cant.): San foo, local name.

This substance consists of red and white splinters of a glass-like mineral from China. It was identified by the Geological Survey. Agate is a crypo-crystalline variety of quartz; it is calcedony with colours arranged in curved parallel bands. It has not been found in Perak (Willbourn).

456. **Pills from Szechwan.**

川粒花: Ch'uan li hua: Ch'uen nap fa (Cant.).

川粉花: Ch'uan fen hua: Ch'uen fan fa (Cant.).

These are red pellets of the size of garden peas, made up of ochreous, brown clay, covered with vermilion. No information can be gathered about these Szechwan clay pills which are probably a proprietary article.

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# Notice

Volume VI will consist of three parts. Parts 2 and 3 will be upon the Medicine of the Malays.

It is being published concurrently with Volume V.